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ABSTRACT

To help Home Economics teachers prepare for the mainstreaming of handicapped students, a study was conducted based on the following objectives: (1) to encourage teachers to be willing to work with disabled students and to view these students as worthy individuals having educational needs that the teacher can assist them in meeting; (2) to identify essential skills for independent living, family living, and career; (3) to develop two or more instructional procedures/techniques for students with varying mental and physical abilities in grades eight and nine; (4) to assess the effectiveness of the developed instructional procedures/techniques for teachers working with both typical and mildly handicapped students; and (5) to prepare curricular guidelines based on the findings from the preceding objectives for dissemination. Group learning centers were selected as an effective teaching/learning strategy for use in the mainstreamed classroom. Three model plans for using this strategy were developed, pilot-tested, and compared for significant differences between plans in cognitive achievement and in student attitudes. Teaching attitudes toward the teaching/learning strategies were also evaluated. Data revealed that cognitive growth occurred for both the typical and mildly mentally disabled students and that all attitudes toward the learning center strategy were generally positive. (A related document, CE 016 745, provides a detailed description of the learning center strategies and the instructional materials.) (BM)

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FINAL REPORT

Procedures for Teaching Skills for Living in Classes Where Mildly Handicapped Pupils are Integrated with Nonhandicapped Pupils

Eleanore L. Kohlmann,
Director
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Department of Home Economics Education
Ames, Iowa 50010

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INTRODUCTION

A current trend in education is concern for the individual as a total being. Formerly, the primary thrust of education has been the teaching of academic skills and knowledge. Educators now realize the importance of social experiences within the classroom which contribute to the growth and development of the whole child. Because they have been isolated in separate classes, many disabled children have had limited opportunities to acquire the social skills necessary to function effectively in our complex, diverse society.

Due to recent federal legislation increasing numbers of disabled students are being integrated into regular classrooms. Many of these students are mildly disabled children who were formerly educated in separate classrooms or, in some cases, separate buildings, isolated from the mainstream of education and society. The movement to include physically and/or mentally disabled students in regular classes is referred to in the literature as mainstreaming or integration.

This movement is sound in theory because some studies have indicated that disabled students in special education classes achieve less well than similar ability students in regular classes, even when no special provisions are made for the disabled students in the regular classroom (Johnson, 1962). However, several factors are impeding the successful implementation of mainstreaming.

Interpretation of mainstreaming and how it is to be implemented in the public school varies considerably among educators. Two examples of theoretical models for mainstreaming cited by Chaffin (1974) illustrate this point.

The Cascade of Education Services, a model proposed by Deno, consists of a hierarchy of services which facilitates the tailoring of educational opportunities to individual needs. This model includes a continuum of services which could be provided by the public school, depending on the needs of the individual. At one end of the continuum, students are in special classes full-time with a special education teacher and at the other end are in regular classes full-time, with or without supplementary support services. Cooperation between regular education and special education teachers is essential in this model.

The Training Based Model by Lilly, sometimes called Zero Reject Model, replaces rather than supplements existing educational services. The role of special educators is to train teachers in regular classrooms to handle all situations which arise in the classroom related to a child's special needs. The child remains in the regular classroom with success or failure the responsibility of the regular classroom teacher.

The organizational pattern most prevalent in Iowa appears to be an adaptation of the model proposed by Deno. Mentally disabled students are placed in special education or resource rooms with a special teacher for basic subjects and are mainstreamed into selected classes such as physical education, art, and home economics. Physically disabled students are placed primarily in the regular classroom with the exception of physical education and/or courses which involve manipulative skills, depending upon the handicapping condition.

A resolution passed at the 1976 Annual Conference of the Association for Supervision and Curriculum Development included the caution that mainstreaming not be interpreted

as returning wholesale all exceptional children to regular classes, or permitting children with special needs to remain in regular classes without adequate support services. For the purposes of the present study the following definition of mainstreaming, using the ASCD Guidelines, was accepted:

> Mainstreaming consists of providing a meaningful learning environment in a least restrictive setting for students of a range of potentials and limitations, including those with disabilities, that nurtures growth as individuals and group members.

Also accepted for the purposes of the present study were definitions of mildly physically disabled and mildly mentally disabled students based upon the State of Iowa Rules for Special Education.

> A mildly physically disabled student is a physically disabled student who can make adjustments to the home economics environment and/or for whom the classroom environment and methods can be adjusted with support services available, if necessary, to meet his/her needs.

> A mildly mentally disabled student is one who can achieve minimum basic skills of reading and writing, but may be 1½ to 3 years behind his/her age-mates in these skills. He/she will benefit from participation in regular home economics classes where modifications in methods and content are made which take into account limited abilities.

Another factor related to effective mainstreaming is teacher attitude and competence in working with exceptional children. Elam (1974) stated that the lack of qualified specialists and teachers will be the greatest barrier in the integrating effort. Results of several studies

indicated that ". . . teachers' attitudes and knowledge about exceptional pupils and how to teach them are of direct relevance to mainstreaming" (Keogh & Levitt, 1976, p. 7). These studies found that few teachers felt confident in meeting the demands they would encounter in mainstreamed classrooms. Although they were willing to work with disabled students, they felt they lacked the knowledge to plan and implement programs for the students, or to help the children in the critical area of social interaction with their peers in the regular classroom (Keogh & Levitt, 1976).

In light of the fact that teachers will need help in working with disabled students and in planning effective educational opportunities for students with a wide range of abilities and limitations, the Home Economics Education Department at Iowa State University proceeded with a research project funded by the Career Education Division of the Iowa Department of Public Instruction. The objectives of the study were:

1. To encourage teachers to be willing to work with students having limited mental and physical abilities in a learning situation and to view these students as worthy individuals having educational needs that the teacher can assist them in meeting.
   a. To value the self-worth of each individual (be accepting and supportive to individuals regardless of handicap).
   b. To gain insight into ways of helping students with limiting abilities.
   c. To be aware of possible ways to manipulate the learning environment (psychological and physical components).

d. To be aware of the role of management in the classroom.

2. To identify areas of skills for living essential for independent living, family living, and career.
3. To develop two or more procedures/techniques for instruction in areas of skills for living for students with varying mental and physical abilities in grades 8 and/or 9.
4. To assess the effectiveness of the developed instructional procedures/techniques for teachers working with mildly handicapped students along with other students in the classroom.
5. To prepare curricular guidelines based on the findings from the preceding objectives for dissemination.

REVIEW OF PERTINENT LITERATURE

In reviewing the objectives of the study two areas, characteristics of learners and skills for living, emerged as topics for further investigation. As the literature was studied, learning centers came into focus as a possible teaching/learning strategy for use in mainstreamed home economics classes. Following is a review of the pertinent literature related to these three topics.

Characteristics of Learners

Studies of adolescents, especially 8th and 9th graders represented by ages 13-15, indicate wide diversity of characteristics among individuals. Although they possess certain characteristics as a group, individuals within the group possess certain ones in varying degrees.

The peer group is very important to individuals in this age group and exerts considerable influence on behavior, dress, and choice of friends (Ausubel & Sullivan, 1970). Eighth and 9th graders tend to conform to peer standards and expectations. They need to feel included in group activities and may be quite exclusive in the formation of these groups.

The 8th or 9th grade adolescent is working to establish his/her own identity and a sense of independence but is still sensitive to criticism, rejection and failure (Mussen, Conger & Kagan, 1974). He/she tends to be self-conscious and concerned about how he/she appears to others.

Adolescents in this age group may lack emotional control and exhibit wide variations in moods, being noisy and boisterous on one occasion and engaging in daydreaming on

another. They sometimes go to extremes in behavior.

Thirteen to 15 year olds may alternate between extremes of energy and fatigue. They tend to neglect their own health and do not take the responsibility for adequate nutrition and rest. Because of rapid and/or uneven growth they may be awkward and clumsy and adopt poor posture (Mussen, Conger & Kagan, 1974).

When working with specific subgroups of adolescents, such as the disabled, it is advantageous for the teacher to have a clear, if brief, picture of that group (Neff & Pilch, 1976). Research cited by Keogh and Levitt (1976) indicated that 88% of the teachers responding believed it was important to know the characteristics of exceptional students, but that only 27% felt that they knew these characteristics.

Neff and Pilch (1976, p. 30) cautioned however, that "There is no such person as a typical mentally retarded child who exhibits all of the characteristics associated with mental retardation. They will vary greatly from child to child in kind and degree." Characteristics associated with mental retardation are of three kinds: physical, intellectual, and emotional.

Physically, mildly mentally disabled children usually are not distinguishable from nondisabled children. They may lag behind normal children however, in motor coordination, in the use of both gross and fine muscles.

Mentally disabled students learn at a slower rate and have a lower capacity (upper limit) for learning than their nondisabled age-mates. They appear to be at the developmental stage of younger children. Reviews of current research by educators in the field of mental retardation

indicate general agreement on some of the learning characteristics of mentally disabled students.

These youth are able to handle concrete learning experiences, but have difficulty with abstract experiences. Their generalizing ability and understanding of cause and effect are limited; they often form faulty concepts. The mentally disabled student is likely to be unrealistic in assessing his own skills and abilities. A short attention span might be attributed to exposure to inappropriate learning activities as many mentally disabled students can become very engrossed in tasks which are meaningful and enjoyable to them and are at an appropriate level of difficulty. Most important, the mildly mentally disabled student can learn and can usually acquire basic skills of reading and writing when properly taught. Kalsto (1970, p. 18) summarized the intellectual characteristics of this group. "Their thought processes can be described as concrete, discrete, unrelated, immediate and obvious."

Many of the emotional characteristics of the mentally disabled, particularly the negative characteristics, result from discrepancies between society's expectations and the child's ability to meet these expectations. The mentally disabled student is easily frustrated, perhaps due to a long history of frustrating, failure experiences. Because of repeated failures many mentally disabled students have poor self-concepts and lack confidence. Behavior problems arise in situations which do not take into account their limitations or satisfy their needs. These behavior problems may take the form of acting out, aggressive behavior or withdrawing emotionally.

The physically disabled members of our society form

a very heterogeneous group. Each individual is unique and exhibits a different set of physical characteristics. No single set of physical characteristics would adequately represent the physically disabled as a group.

In the area of emotional adjustment certain characteristics arise as a response to the handicapping condition and society's expectations. Physically disabled children have the same basic needs, such as affection, recognition, and security, as nondisabled children, but they have more limited means of satisfying their needs. Most individuals experience frustration when confronted by obstacles which prevent them from satisfying their needs. The physically disabled individual faces not only the obstacles that all people face, but additional ones related to his handicapping condition. As Kirk (1974) pointed out, it may be that disabled individuals appear frustrated more often than nondisabled individuals not because of a low threshold of frustration, but because the frustrating stimuli are so intense.

Frustration is likely to occur when there is a discrepancy between the child's or society's expectations and the child's ability to achieve the goal. The physically disabled student may respond to frustration in several ways. He may be aggressive, or he may withdraw emotionally. He may repress his desires to reach the goal, or he may seek alternate ways to reach the goal by compensating for his disability. Cruickshank and Johnson (1958) stated that physically disabled children are usually retarded socially and emotionally. These added handicaps can cause added problems in a regular classroom.

Research indicated that disabled students possess

unique characteristics as a result of their handicapping condition. However, there is evidence in the literature that disabled adolescents are very much like typical, non-disabled adolescents and that they possess many of the same general characteristics typical of most adolescents. While it is helpful to educators to know the unique characteristics of disabled students, it is essential for them to keep in mind the similarities as well.

Educational Goals for the Disabled

A review of literature revealed different approaches to identifying goals of education, all of which had relevance to identifying skills for living needed by disabled individuals. Phi Delta Kappa (1969) published a list of goals of education which are used by many schools throughout the nation as a guideline for program planning. These goals are broad in scope and include job and occupational skills as well as goals for general education.

Bresina (1961) identified goals of general education which include knowledge and skills needed by all individuals in our society. The emphasis of general education is growth and development of the individual, including areas such as understanding the ideas of others and expressing one's own effectively, developing one's own potential as an individual, and acquiring the knowledge and attitudes basic to a satisfying family live.

In his review of literature on goals of education for the mentally retarded, Stevens (1958) pointed out that there tends to be agreement among authorities in special education on many items, such as "making a living" and "using one's leisure time wisely". He believed that the

concept of persistent life situations, first presented in 1947 by Stratemeyer, Tarkner and McKine provided many advantages as a means of stating goals or objectives of education for the disabled. Because persisting life situations are based on the problems which arise from the interaction between the learner and all aspects of his environment at any given time, educational experiences can be devised which are consistent with the individual's present level of development. The individual thus develops skills which enhance future adjustment. In this way, besides focusing on the learner's specific needs, the persisting life situations approach enables one to develop curriculum with scope and sequence. Stevens presented a list of goals for the mentally retarded which were stated in terms of persisting life situations.

A review of literature on educational goals for exceptional children indicated that many educators view goals of special education as basically the same as goals for education of all children. The comparison of goals for the mentally disabled and for education in general seemed to confirm Steven's conclusion that ". . . the general goals for the retardate are the same as for all learners since the mentally retarded child is more similar than different than his normal peer" (1958, p. 234).

Learning Centers

Learning centers as a classroom management strategy are not new. Vacca and Vacca (1976) pointed out their effectiveness in meeting the varying needs of individual students within a classroom. Because learning center activities are self-directing, the teacher becomes a facili-

tator in the learning process rather than the central figure. He/she is then free to offer assistance as needed to students, individually or in small groups.

The Heartland Education Agency (1977, p. 1) cited the following advantages of learning centers for mentally disabled students, but the same advantages would apply to most students.

> Learning centers provide the opportunity for the student:
> - to practice making decisions
> - to practice following directions
> - to practice working independently
> - to practice new learnings and to reinforce old learnings
> - to develop skills in working with other students
> - to learn from other students
> - to take responsibility for the use and care of materials.

Learning centers are activity oriented. In developing learning centers it is important to provide a variety of activities taking into account the varied interests and abilities of the students. The particular activities and organization within the learning centers depends on the educational goals or objectives to be accomplished (Heartland, 1977).

If learning center activities are to be self-directing, the students need to be able to proceed independently rather than relying on the teacher to read and interpret directions. Directions, therefore, need to be clear and simple. Having all necessary materials and supplies within the learning center or within easy access to the student contributes to the self-directing nature of the learning center.

Placement or grouping of students within the learning center can be accomplished using three different criteria:

affective placement, random placement, and placement by specific skills or abilities (e.g., reading level for reading learning centers) (Vacca & Vacca, 1976). The type of grouping chosen by the teacher would depend also on the educational goal or objectives of the learning center.

Learning centers can be structured around individual and/or group activities. Johnson and Johnson (1975, p. 37) cited several advantages of peer tutoring, which is likely to occur in group activities, or cooperative goal structure:

1. Some students respond better to peers than to adults.
2. A bond of friendship may be developed between the learner and the tutor, which can be helpful in integrating slow learners into the group.
3. The tutors learn by teaching.
4. The teacher is relieved of some of the pressure and is able to help others.

Also cited in the literature is the fact that working in small groups contributes to self-direction of students (Heartland, 1977).

According to Johnson and Johnson (1975) a cooperative goal structure facilitates both cognitive and affective educational outcomes. Students remember factual material better if it is discussed in a cooperatively structured group. Affective outcomes include acceptance of individual differences, positive self-attitudes, and acquisition of group skills. Johnson and Johnson (1975, p. 25) stated that "No aspect of human experience is more important than cooperative interaction with others."

METHOD OF PROCEDURE

Plan for Implementing Objectives

Keeping in mind the objectives of the study, the need to study the learners and identify the skills for living essential for independent living, family living, and career, and the general outline and time schedule as given in the proposal, a flow chart was developed. As this chart evolved it became apparent that there were three separate but related components of the study:

1. development of and use of teaching/learning strategies and instructional materials
2. development of instruments to evaluate student cognitive growth as the result of using the teaching module and affective devices to summarize student and teacher attitudes toward the teaching/learning strategies.
3. participation of home economics teachers to increase their competencies in teaching mildly disabled and of mainstreamed home economics classes and to pilot test the teaching/learning strategies.

The preliminary draft of the flow chart showing the interrelationships between the various components of the project and indicating the timing necessary to complete the various components at appropriate times was reviewed by the Head of the Home Economics Education Department, Iowa State University, the advisory committee, and selected personnel at the Department of Public Instruction. After incorporating the suggestions of these consultants, the final draft of the flow chart guided the method of

procedure throughout the study, and except for minor alterations, was followed as it appears on page 15.

Participation of Advisory Committee

The establishment of an advisory committee was undertaken in late summer 1976. The members of the committee were chosen because of their expertise in working with the disabled and to represent a cross-section of the varied agencies directly involved in providing educational programs for these students. The five committee members selected included a teacher from the University Hospital School, Iowa City; a special education consultant from the Heartland Area Education Agency; a consultant in mental disability, Iowa Department of Public Instruction; an extension specialist who has expertise in identifying needs of and working with physically disabled, Iowa State University; and a consultant in Planning and Support Services, Career Education Division, Iowa Department of Public Instruction, who served as an ex-officio member.

The total committee conferred with the staff at a three hour meeting in the early stages of the project to share their expertise in the problems encountered in providing meaningful programs for the special student. After an introduction to the scope and objectives for the total project, the flow chart for the project was examined and several additions and changes were recommended. Preliminary materials on the characteristics of learners were presented and initial reactions and concerns were shared. The committee members each returned a written commentary on these materials after more thorough and reflective examination the week following the meeting.

Those members of the committee who had knowledge of programs for the disabled at the junior high levels indicated procedures which might be effective in the identification of schools with mainstreamed home economics classes. (See Agenda I, Appendix B.)

Throughout the project individual committee members reviewed materials developed for the project, and gave counsel related to their special areas of knowledge on problems which arose; such as, location of the physically disabled student and types of evaluation devices most effective for use by the mentally disabled. A special education consultant from the Heartland Area Education Agency supplied information on the use of learning centers in special education classes.

In addition three committee members attended and contributed to the first in-service seminar for participating home economics teachers.

Study of the Student

During the fall, 1976, the project staff visited several schools and mainstreamed junior and senior high school classes to become familiar with mainstreaming as it is implemented in Iowa schools and to gain background information on various handicapping conditions. Visits to University Hospital Schools in Iowa City and to Smouse Opportunity School in Des Moines enabled the staff members to observe students with more severe disabilities than those they would encounter in most mainstreamed classes. But the observations helped put into perspective the degree of disability with which they were working. Visits with staff members and administrators of the special schools

also provided insight into some of the unique needs of disabled students.

Staff members also observed mildly disabled students functioning in regular junior and senior high school home economics classes. Informal discussion with teachers and principals whenever scheduling permitted provided information concerning problems of mainstreaming, methods the teachers had found helpful in teaching disabled students, and general areas of concern in teaching the disabled.

These visits gave the staff a perspective from which to work and guided their research into the available literature concerning characteristics of mildly physically disabled, mildly mentally disabled, and "typical" or non-disabled 8th/9th grade students.

A review of the literature provided many characteristics of students. Lists of characteristics for each of the three groups of students were compiled by staff members. The lists were compared, and similarities and differences among the three groups of students were noted.

Concurrently, the staff developed a schematic illustration or visual representation of the similarities and differences among the three groups of 8th/9th grade students which is presented on the following page. Although the illustration shows the interrelationship of characteristics of groups, it does not show the relative number of characteristics in each group.

Each circle represents one group of students. The lettered portions of the circle represent characteristics of groups as listed below:

A. All groups of 8th and 9th grade students
B. Typical student
C. Mildly mentally disabled student

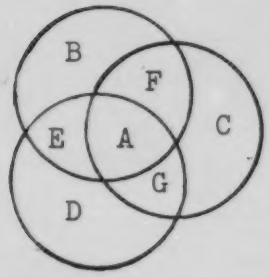

Figure 2. Interrelationship of characteristics of groups

D. Mildly physically disabled student

E. Commonalities among typical and physically disabled students

F. Commonalities among typical and mentally disabled students

G. Commanalities among the mentally and physically disabled students

The final compilation and accompanying bibliography is found in Appendix C. Some of the findings and conclusions concerning the characteristics of learners were of special significance to educators. The literature often stated that disabled students are more similar to typical students than they are different. This fact became quite apparent because by far the largest group of characteristics were those that all groups of 8th and 9th grade students had in common. Another pertinent finding was that there were no characteristics found only among typical students which were not shared by the physically and/or mentally disabled student. In relationship to the lists of characteristics of students it is to be noted that these characteristics are on a continuum, and within any group of students there is wide

variation in the degree of the characteristics from individual to individual.

The characteristics of the three groups of students were reviewed by ISU subject matter specialists in the departments of family environment, child development and psychology. They also were reviewed by members of the advisory council. A final draft was made incorporating the suggested additions, deletions, and other changes.

The characteristics of 8th and 9th grade students, both similarities and differences, provided one of the bases from which the staff developed the instructional materials needed to facilitate the teaching/learning strategies. By keeping in mind that all students have much in common, but being aware of some of the differences which affect learning, the staff was able to make provisions which would provide for the educational needs of all three groups of 8th and 9th grade students--the typical, the mildly mentally disabled, and the mildly physically disabled students in a common classroom setting.

Skills for Living

The goals of general and special education reviewed in the literature were summarized and combined into one list which reflected the skills for living needed by all adults to function effectively as individuals, family members, and members of society.

Child development theory, Havighurst's (1972) developmental tasks for adolescents, and practical experience in working with adolescents, provided the basis for refining and restating the basic skills for living for adults as competencies which adolescents could achieve.

The skills for living needed by adults and competencies to be achieved by adolescents may be seen in Appendix C.

Group Learning Centers

After synthesizing all background information concerning the learners and how they function, advantages and disadvantages of various teaching strategies, and the possible classroom situations available for pilot testing, the conclusion was reached that the instructional procedures/techniques developed would involve learning centers. Although the literature discussed the use of learning centers primarily for individualizing instruction at the elementary level, the method appeared to have potential for integrating the disabled student as a member of a regular home economics class. For this reason the learning centers as incorporated in this study were structured mainly for group activity rather than for individualized instruction. The proposed model indicating the functioning of this instructional strategy is on the next page (Figure 3).

The following definition of home economics learning centers was developed:

> Home economics learning centers are teaching/learning environments established either within or outside the classroom for the purpose of assisting small groups of learners, working individually or as a group, to achieve one or more specified educational objectives. Each center contains the necessary instructional aids to be used in the accomplishment of the objective(s).

Based upon information available in the literature, it was concluded that group learning centers, used within the home economics classroom, would facilitate instruction for

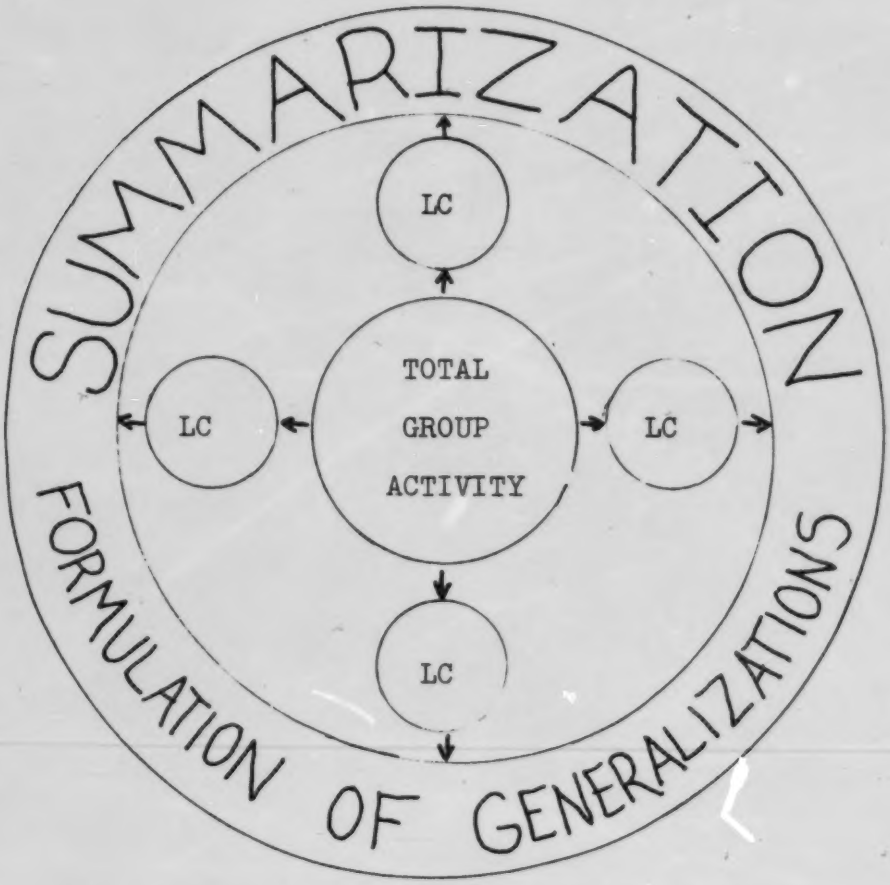

Figure 3. Model of learning center (functioning)

students of a range of intellectual abilities in a mainstreamed class situation because they:

1. Encourage all students to develop social skills through small group interaction.
2. Encourage involvement of all students. Mentally disabled students are much more likely to participate actively in small groups than in large groups.

3. Provide opportunity for individualized instruction to meet the educational needs and goals of all students through group rather than independent study. Reinforcement or enrichment activities can be offered as needed.
4. Free the teacher during the class period to give personalized help to students as needed.
5. Provide opportunity for tutorial help as needed, either by peers, resource teachers, or para-professionals.
6. Encourage the teacher to provide meaningful "hands on" activities for areas that may be primarily academic in nature.
7. Help the nondisabled student gain greater appreciation for the disabled individual as a person with needs and differing abilities, as they work closely together to accomplish a common objective.
8. Contribute to the acquisition of the skills for living competencies of communicating ideas, verbally and nonverbally, respecting and getting along with people with whom one works and lives, and accepting oneself as a worthy individual.

Consistent with the definition of learning centers and the proposed model, three different plans were implemented for the study. The first plan was organized by the objectives of the unit, the second plan was based upon the generalizations supporting each specific objective of the unit, and the third was a combination of Plan 1 and 2.

Plan 1

Each learning center is devoted to group activities associated with the accomplishment of one objective. A group is assigned to each learning center. After completing the activities in one center, each group rotates to the next center, and continues this rotation until all students have the opportunity to work on all objectives.

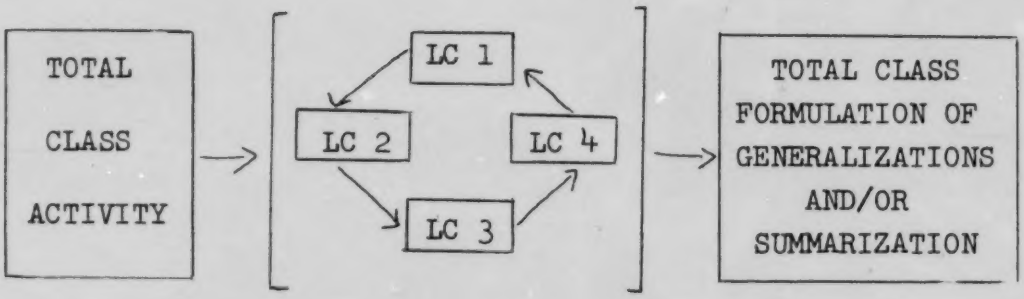

Figure 4. Plan 1 (flow chart)

The number of learning centers within a classroom will vary according to the number of objectives to be developed for a specific unit. A total class activity precedes the learning center activity for introduction and follows at the conclusion of the learning center activities for summarization. All materials necessary to complete all of the activities in a learning center are contained in that center.

Plan 2

All learning centers are devoted to the same objective; each center contains specific activities directed toward the development of one generalization associated with that objective. As the activities are completed in all learning centers, the groups report (teach-back) to the total class a summary of the activities in each learning center. Not all students have the opportunity to work on all generalizations directly, but have the opportunity to conclude the generalizations as the students from each center report (teach-back) to the total class. This process is repeated for each objective contained in the unit.

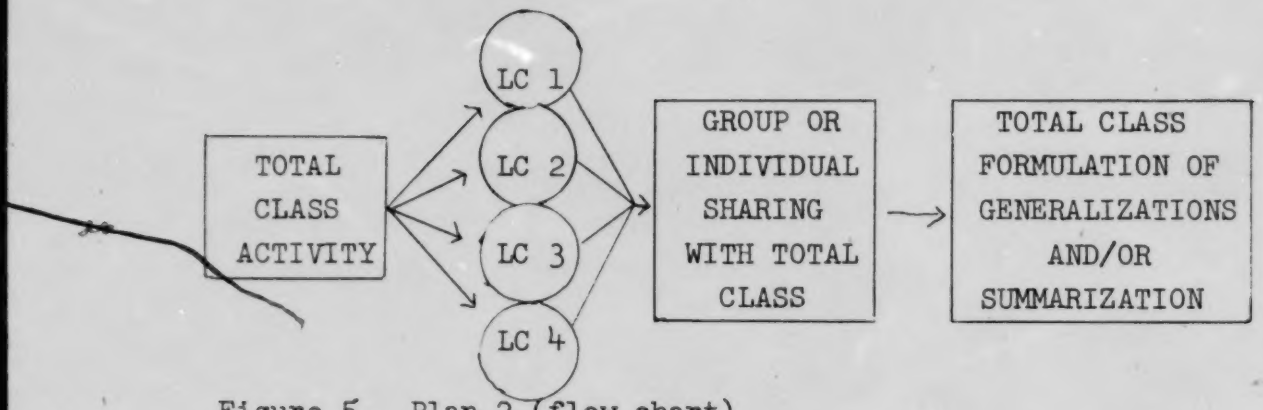

Figure 5. Plan 2 (flow chart)

The number of learning centers within the classroom depends upon the number of generalizations associated with a specific objective. A total class activity precedes the learning center activity for introduction and follows at the conclusion for summarization. All materials necessary to complete the activities in a learning center are contained in that center.

Plan 3

The learning centers in Plan 3 combine the organization of Plan 1 and Plan 2. During a unit all students will work on selected primary objectives on a rotation basis (Plan 1), and for the remaining objectives students will participate in activities associated with single generalizations related to one objective (Plan 2). Its use permits more variety than Plan 1 or 2. (See Figure 6, page 26.)

A total class activity precedes the learning center activity for introduction and follows at the conclusion of the learning center activities for summarization. All materials necessary to complete the activities in a learning center are contained in that center.

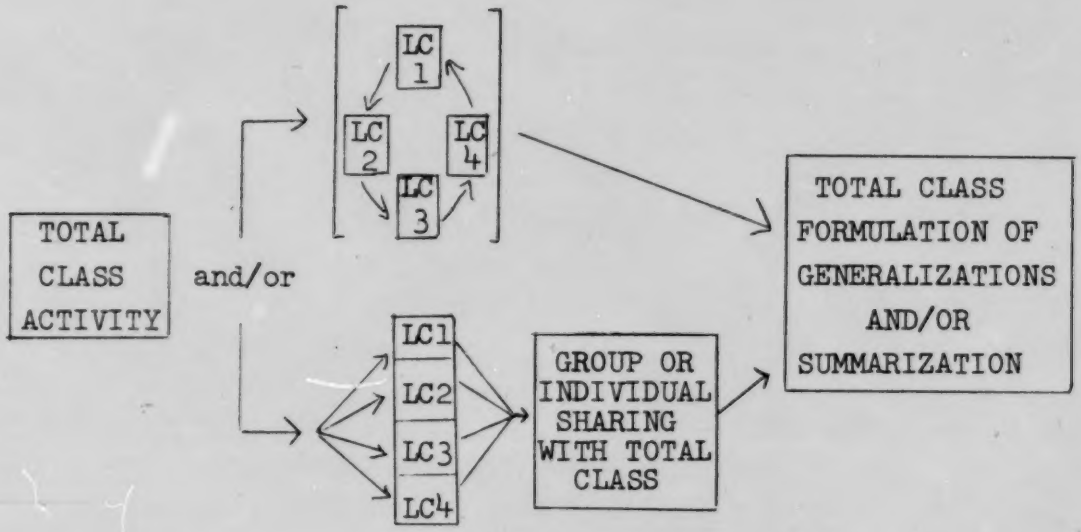

Figure 6. Plan 3 (flow chart)

Because grouping of students is an integral part of the three learning center plans, selective criteria were established to guide the teacher in dividing a mainstreamed class into learning center groups. These criteria were:

1. group size - minimum 3 students
   maximum 5 students
2. academic ability - heterogeneously grouped
3. social compatibility - student preferences among classmates

To test the effectiveness of the three learning center designs in a mainstreamed home economics class, each was developed using identical objectives with supporting generalizations.

Development of Learning Center Teaching Modules

To field test the three plans incorporating the use of group activity learning centers in mainstreamed home economics classes, the topic of Consumer information--the consumer has the right to know, was selected. Several factors influenced this choice:

1. As all members of our society become consumers in the market place, all need consumer education.
2. Consumer education can contribute to the acquisition of skills for living competencies as adolescents become better able to:

   Apply principles of nutrition in the selection of food consumed

   Be aware of personal resources in addition to money

   Develop skills in relation to management of money, time, energy

   Identify alternative solutions to problems and recognize possible outcomes

   Decide when information is reliable

   Realize that continuing education throughout the life time is a way of coping with change

   Accept the necessity for laws and law enforcement
3. The majority of classes would be working on either food or clothing units at the time the learning center modules were to be tried. Both areas have a consumer education component, therefore, objectives and generalizations developed for the unit--the consumer has a right to know--could be implemented in either.
4. Teachers tend to need more assistance in meeting needs of varying groups of students in mainstreamed classes in areas of study that are mainly nonlaboratory than laboratory in instructional procedure.

The materials for use in the three learning center plans were developed as modules. Four major objectives with related generalizations were identified; these reflected both the module topic, and the specific skills for living competencies selected for the module. The generalizations were reviewed by subject matter specialists for content. After the generalizations had been approved, the concepts contained in the generalizations were identified and divided into two groups. The first were those the students would require before beginning to work in the learning centers, and for which the teacher would accept the responsibility for presenting to the entire class. The second group of concepts were those to be acquired by the students through completing the activities in the learning centers. The teachers were provided with suggested descriptions of the concepts they were to introduce or have introduced to the entire class before the students began the activities in the learning centers to provide consistency from one school to another in the pilot sample.

An overview of the complete module for each of the three learning center plans was prepared to provide the teachers with an overall procedure for classroom management for the period the learning center module was to be used. The overview also provided the time table and the sequence of activities to be followed including administering pretests and posttests, presentation of concepts by the teacher, group activities in the learning centers and total group summarizations as activities in the learning centers were completed. (See Teaching Module for Learning Centers and Overview Plan 1, 2, 3 in Appendix C.)

Group activities for the learning centers were designed to aid the students in acquiring the concepts contained in the generalizations for each objective and to see relationships among them, thus permitting the students to conclude or formulate the generalizations and so achieve the module objectives. After these group activities were developed, they were placed in the individual learning centers according to the specific learning center plan. For example, all group activities directed toward the concepts contained in the generalizations for objective A were placed in learning center A for Plan 1. These same activities were divided into four learning centers for Plans 2 and 3.

Each learning center activity was self-directed, containing a group directions and activities packet and all the materials necessary to complete the activities as detailed in the packets. Multi-level reading books and pamphlets, tapes, and instructional posters were used for the reference materials. Activities included use of many visuals from magazines and newspapers, and varied "hands-on" items including clothing labels, hangtags, and care instructions; and food labels, cans, and boxes. Student worksheets were provided; some requiring simple checking, others for short group summaries of activities completed. Although a few activities were done by the students individually, the majority required participation of all students in the learning center working together as a group.

An attempt was made to provide activities which would meet the needs of and be meaningful to each of the three types of students (typical, mildly mentally and/or

physically disabled) working together in heterogeneous groups within the same classroom. Considering the similarities and differences of the characteristics among these three groups of students, activities were designed which would:

1. encourage tutorial help from peers.
2. provide ways to involve teacher aids and resource teachers.
3. involve actual "hands-on" objects to give emphasis to concrete rather than abstract experiences.
4. furnish "hand-on" objects commonly found in the student's home environment.
5. use a wide variety of short meaningful activities calling for direct participation to accommodate short attention span and need for short term goals. Present new concepts in more than one way to contribute to greater retention.
6. reinforce concepts from learning center to learning center to encourage "overlearning" of concepts.
7. provide visuals, a variety of posters with brief information and large bold print, and illustrations from magazines and newspapers.
8. provide items on tests which include visuals and illustrations; require simple marking of answers.
9. use case studies to relate activities in classroom to everyday experiences.
10. encourage participation by all in making group decisions.
11. furnish tapes for low-level readers or nonreaders, or for those with visual disability.
12. encourage decision-making through optional activities (Plans 1 and 3), and offer opportunity to choose according to individual abilities and interests.
13. include group and individual activity sheets calling for responses by "checking" rather than writing.

14. place emphasis upon oral and visual activity rather than reading or writing.
15. use materials highly structured and accompanied by brief and concise yet specific directions.

As the specific group activities were developed they were reviewed by both curriculum and subject matter specialists at Iowa State University. Revisions were made based upon their recommendations.

One of the pilot schools agreed to pretest portions of the learning center group activities, providing an opportunity to observe students using the materials in learning centers, and to accomplish the following objectives:

1. to measure the length of time necessary to complete activities
2. to observe students' use of illustrative materials: references, tapes, posters, and activity sheets
3. to listen to students' questions--directions and/or activities not clearly understood
4. to observe student reactions and/or attitudes toward working as a member of a group in a learning center
5. to gain input from a teacher experienced in working with mainstreamed classes

As a result of the pretesting further modifications were made in the group activities before final field testing began in the remaining pilot schools. The complete group activity learning center teaching module including student materials may be found in Volume 2 of this report.

Development and Selection of Evaluation Devices

Attitude toward disabled persons

A search was conducted for an instrument which could be used to assess teachers' attitudes toward disabled students. Of the instruments found, the Attitudes Toward Disabled Persons Scale, developed by Yukor, Block and Younng (1966) appeared to be most appropriate for collection of data to meet the needs of this study. Permission was obtained from the publisher to administer this scale. A copy of this device and answer sheet are in Appendix D.

Achievement test

A pool of objective test items was generated for each objective in the unit. After being reviewed by an evaluation specialist the best items were included in the first draft of the instrument. Because all four objectives in the consumer information module were considered to be of equal importance and a similar length of class time was to be spent on each one, each objective received approximately equal weighting in the achievement test.

Some of the concepts and generalizations included in the module were specific to either foods or clothing. For this reason different but parallel items were needed for different forms of the test. All of the items (a total of 32) were included in the form that was then used on a trial basis in a 9th grade home economics class not included in the final sample.

The mean scores and item analysis from the trial usage indicated that some items were too easy and some distractors were not functioning. The home economics teacher who assisted in administering the test commented that some of the

items were poorly worded and difficult to interpret. Revisions were made accordingly and a final draft was developed with 19 items on the food and clothing forms of the test. The table of specifications for the final draft of the test is shown below.

Table 1. Table of specifications for construction of cognitive test

Objectives	Item Number	% of Total Test
Objective A: The student will be better able to identify sources of consumer information.	8, 9, 10, 11	22
Objective B: The student will be better able to analyze consumer information for completeness and reliability.	2, 4, 12, 13, 14	26
Objective C: The student will be better able to recognize that federal laws regulate product labeling so the consumer knows what he/she is buying.	1, 3, 4, 6, 7	26
Objective D: The student will be better able to identify how advertising appeals to consumers to sell products.	15, 16, 17, 18, 19	26

The items were written considering the limitations of the mildly mentally disabled students. Only three options were used in the multiple choice portion to make the items suitable for students with limited intellectual capacity as was recommended by a consultant on mental disabilities

in an area education agency. Several items included pictorial representations for the same reason.

Answers were recorded directly on the test. Students were instructed either to circle the letter of their answers or to record a letter in a blank. This method of answering would make it possible for most mentally disabled students and those students with mild manipulative physical disabilities to record their own answers. Teachers were directed to read the test items to students with visual handicaps and/or very low reading abilities.

The items were based on generalizations which had been reviewed by subject matter specialists to help establish content validity. An evaluation specialist reviewed the items to determine if they were written at the appropriate level for the behavioral objective being assessed. Forms of this instrument for foods and clothing can be found in Appendix D.

Devices for measuring attitudes toward learning centers

The students' and teachers' attitudes toward the learning centers were of concern for two reasons. It was believed that the cognitive outcome of the study might be affected by the attitudes of the students and the teachers. Their attitudes would also help determine whether or not learning centers should be recommended as a possible teaching/learning strategy for future use.

Twenty-three items assessing the students' reactions to the materials, the activities, group work, and content area were developed. Additional items specific to each plan were devised. The final instrument for Plan 1 contained 25 items; for Plan 2, 25 items; and for Plan 3, 27 items. The response format was a 5 point Likert-type

scale.

The respondents indicated whether they strongly agreed, mildly agreed, were undecided, mildly disagreed or strongly disagreed with the statements by circling the corresponding letter. Approximately half of the items were stated positively and half were stated negatively to prevent respondents from developing a response set when answering. For positively stated items numerical values ranged from 5 for strongly agree to 1 for strongly disagree; for negatively stated items the values ranged from 1 for strongly agree to 5 for strongly disagree. Comments were solicited at the end of the device. See Appendix D for a copy of Form III of this device which includes all 27 items.

The attitudinal devices were mailed to the teachers early in May to be administered upon completion of the unit. The teachers were given instructions on the administration of the test in a cover letter. (See letter 9, Appendix A.)

Thirty-two items were included to assess the teachers' attitudes toward the learning center strategy, group work, materials, implementation of learning centers and provisions for the disabled. One item specific to Plans 1 and 3 and 2 items specific to Plans 2 and 3 were added so separate forms of the instrument were devised which included only those items pertaining to each plan.

The response format chosen for the instrument was also a 5-point Likert-type scale. The respondents circled the letter which indicated whether they strongly agreed, mildly disagreed, were undecided, mildly disagreed or strongly disagreed with the statement. See Appendix D

for a copy of Form III of this device, which contains all 35 items.

Identification of Pilot Schools and Sample of Classes

It was anticipated that the cooperation of 12 to 15 schools where integrating is practiced at 8th and 9th grade would be necessary to test the materials developed in the study. Furthermore, the plan of the study was such that the field testing would be done during the spring semester, therefore the home economics classes in these schools should have mainstreamed students during the second semester, 1977.

To identify schools where students with mental and/or physical disabilities were mainstreamed into the regular home economics classes at the 8th and 9th grade level, a letter was sent to the special education consultant in each of the 15 area education agencies within the state. These consultants were asked to identify potential pilot schools by providing the names of the school districts and schools where such organization existed. (See letter 1, Appendix A.) Replies were received from nine consultants who provided the names of 54 schools within their areas where home economics classes were mainstreamed. Contact was made by telephone with the six special education consultants who did not respond, and an additional six schools were located.

A letter was sent to the principal of each of the 60 schools introducing the purpose of the project and soliciting his cooperation and the active participation of the home economics teacher in field-testing the materials. A postcard was enclosed for the principal to return to indicate his willingness for the school to be included in

the study and if his response was positive, a letter and information sheet were included to be given by the principal to the home economics teacher. If the teacher was also willing to participate, she was requested to provide pertinent facts about her classes on the enclosed information survey sheet which she was to return. If the reply was negative, an envelope was provided for all of the materials to be returned to the project staff. (See letters 2 and 3, Appendix A.)

Replies were received from 54 principals; 25 returned positive responses with the completed information sheet provided by the home economics teacher, 9 were willing but their classes did not meet the criteria as stated in the letter, and 21 did not care to participate.

The primary reason given by the majority of principals for not participating in the study was that home economics is offered on a semester basis, and the disabled students in these schools had been mainstreamed during the first semester. A few principals also indicated that as yet their home economics classes were not mainstreamed; in a few of these schools home economics teachers were providing instruction for a separate class of special education students.

Although there were only two criteria for the preliminary identification of possible pilot schools--classes at the 8th and 9th grade level, and home economics classes mainstreamed during the second semester, 1977--after tabulating the information on the teacher survey forms, two more criteria were added for the final selection of participating schools. These additional criteria were: classes containing at least 12 students as needed for optimum grouping for the use of the learning center modules,

and food or clothing areas to be taught during April. Thirteen of the responding schools met these criteria and the home economics teachers were informed by letter. A postcard was included asking them to verify the information provided earlier on the survey form and to supply definite numbers of students who would be involved. The teachers in the remaining 12 schools which did not meet the criteria were so notified. (See letters 4 and 5, Appendix A.)

The pilot testing of learning center strategies designed for mainstreamed home economics classes was carried out in 12 junior and/or senior high schools in Iowa, with 16 teachers and 19 classes participating. Before the completion of the project three classes were eliminated: two due to a conflict in scheduling within the school, and one as the disabled students were withdrawn from the home economics class in the middle of the semester. Complete data were obtained from 16 classes taught by 14 teachers. A total of 251 students including 25 mentally disabled and five physically disabled were included in the final sample. A complete description of each participating class is contained in Table 2.

As Table 2 indicates, only five physically disabled students were enrolled in the home economics classes included in the final sample. In an attempt to locate more physically disabled students enrolled in home economics classes to participate in the study, contact was made by telephone with several agencies. These included the Iowa Department of Public Instruction; the personnel at Camp Sunnyside (a camp for disabled youth and adults funded by the Easter Seal Society); the administrators of University Hospital School, Iowa City; several city supervisors of home economics; and a special education consultant in the

Table 2. Description of classes: Pilot schools

Class	Learning Center Plan	Grade	Area		Total No. Students	Disabled Students	
			Food	Clothing		M	P
1	1	8th		X	13	1	1
2	1	8th		X	12	1	
3	1	8th		X	13	1	
4	2	9th		X	13	2	
5	2	8th		X	18	1	
6	3	9th		X	13	2	1
7	1	8th	X		22	3	
8	1	8th	X		25	1	
9	1	9th	X		12	1	
10	1	9th	X		21	2	1
11	2	8th	X		14	2	
12	2	8th	X		15	2	
13	2	8th	X		16	1	
14	2	9th	X		13	1	1
15	3	8th	X		17	2	
16	3	9th	X		14	2	1
				TOTAL	251	25	5

Heartland Area Education Agency.

The respondent at Camp Sunnyside indicated that a record of schools attended by the camp participants was not included on the permanent file and furthermore, providing or sharing this information might be considered an invasion of privacy. It was found that the area education agencies have information concerning physically disabled

students only if there has been a request made by the school or family for special support services for the child. Many students apparently have learned to adapt to their handicapping condition without support services by the time they enroll in junior high school and so are not identified by the AEA's. It was also suggested by one respondent that physically disabled students may not choose to elect home economics if it is not required. Furthermore, that in some cases these students were discouraged from taking home economics in regular school classes because they would be "too slow".

Through the other contacts five additional physically disabled students were identified: two blind students, one with cerebral palsy, one with extensive leg braces, one with one-handedness. However, none were presently enrolled in home economics classes at the 8th or 9th grade level, although all had been students in regular home economics classes in the past. Therefore, the number of physically disabled students in the final sample remained at five.

Use of Teaching Modules

Participating teachers were asked to use the learning center modules in two or three day segments (depending upon the plan to which they were assigned) in each of the four weeks during April 1977. Use of the module on this time schedule was suggested for the following reasons:

1. A full month would elapse between pretest and posttest, the forms of which were identical.
2. Teachers could use the modules without completely disrupting the units they had previously planned.
3. Students might react negatively to the use of only one method of instruction for extended periods.

4. Staff members would have the opportunity to visit all of the schools and observe students working in the learning centers.

Basically this plan was followed by all of the teachers although Easter vacations caused a few schools to extend the last three day segment into the first week in May. All pretests, posttests forms, and student and teacher attitude devices were returned by the 15th of May.

During April an appointment was arranged by telephone with each of the participating teachers. Two staff members visited each class to observe the students working in the learning centers and to answer any questions the teachers had concerning the materials or the activities.

Participation of Teachers

One of the primary objectives of the study was to provide assistance to home economics teachers who are involved in meeting the needs of all students in mainstreamed classes. The development of the learning center teaching module for use by teachers and students in mainstreamed classes was directed toward accomplishing this objective.

To help the participating teachers understand the development of the learning center teaching modules and how these were to be used by the classes in the pilot study, two seminars were held and visits were made by two staff members to each pilot school during the time the study was in progress.

On March 21, 1977, a one-day seminar was held on the Iowa State University campus for the home economics teacher participants who had agreed to field test the proposed teaching/learning strategies for mainstreamed classes. (See letter 6, Appendix A, and agenda 2, Appendix B.) The

purposes of the seminar were to present an overview of the total project, increase the teachers' willingness and ability to deal with mildly disabled pupils, assess the attitudes of the teachers toward disabled students, and instruct the teachers in the use of the group learning center teaching modules.

In the presentation of the overview of the project the teachers were introduced to the purposes and scope of the study including the contribution they and their classes would make. Details concerning the number of days of class-time required, observations by staff members, and possible dates for a final seminar were discussed.

To provide the teachers with the bases from which the learning center teaching modules for integrated classes evolved, the morning session of the seminar centered on the characteristics of the three groups of learners: typical, mildly mentally disabled, and mildly physically disabled students. Emphasis was given to the similarities and differences of these three groups, and the implications these characteristics have in planning content and methods, and in adapting the environment for a mainstreamed class. The discussion was considered important to include as earlier in the study only three teachers indicated that they had received help in preparing for the integration of disabled students into the regular home economics classroom. Two stated that the special education resource teacher had provided assistance, and one had benefited from in-service meetings provided by her school district.

The skills for living in today's society needed by all students regardless of mental capabilities were introduced. They served as the basis for discussing the contribution home economics classes can make to the acquisition of

competencies related to these skills to be achieved by all students during adolescence. In addition it was pointed out that both the area of study and the method of instruction can contribute to this acquisition of competencies. (See Skills for Living in Appendix C.)

The discussions on characteristics of learners and skills for living were used to explain to the seminar participants the bases for the development of group activity learning centers. To familiarize the teachers with the concept of learning centers, the definition formulated for this study and the rationale for the use of these centers in mainstreamed classes were presented. The bases for dividing a class into groups to accomplish the activities in learning centers were detailed. (See Learning Centers in Appendix C.)

In the afternoon session of the first seminar the teachers were divided into three groups and assigned to one of the three group learning center teaching modules to be field-tested. The participants were provided a copy of Teaching Module for Learning Centers which contained objectives, generalizations, and concepts common to all plans, and to the overview of the specific plan to which each was assigned. After the teachers had an opportunity to study the structure of the plan to which they were assigned, the student activities for the learning centers developed for each plan were examined. All illustrative materials, student direction sheets, and other supplies necessary to accomplish the activities in each learning center in each plan were distributed to the appropriate teachers. (See Teaching Module for Learning Centers in Appendix C.)

It was believed that teachers' personal attitudes

toward the disabled might have some effect upon their willingness to work with disabled students having limited mental and physical abilities in a mainstreamed classroom. Therefore, it was considered important to assess the attitudes of participating teachers toward disabled individuals. The Attitude Toward Disabled Persons Scale was administered at the conclusion of the seminar.

During the month of April when teachers were using the learning center teaching modules in their classrooms, a visit was made to each class by two staff members. In addition to observing the learning center modules in use in mainstreamed classes, the staff members had an opportunity to discuss with the teacher her concerns and problems in meeting the needs of the disabled child.

On May 16, 1977, an evaluation seminar was held on the Iowa State University campus for the teachers who had field tested the learning center teaching modules for mainstreamed classes. Eight teachers and six staff members attended. (See letters 7 and 8, Appendix A, and agenda 3, Appendix B.)

The seminar permitted the teachers to share with each other and the staff members their experiences and reactions to the use of group activity learning centers. The discussions were informally organized to permit the teachers to fully express their ideas and concerns. These discussions were tape recorded and a summary of the teachers' comments appear in the findings.

Data Collection

Attitude toward disabled persons

The Attitude Toward Disabled Persons Scale was administered at the conclusion of the seminar designed to orient participating teachers to the study. Thirteen teachers responded to the device.

Achievement test

The achievement test was administered as a pretest early in April before the students began working in the learning centers. The pretest was administered to 117 students in Plan 1, 89 students in Plan 2, and 45 students in Plan 3.

The same test was administered as posttest after the students had completed the module. Completing the posttest were 112 students in Plan 1, 89 students in Plan 2, and 45 students in Plan 3.

Student and teacher attitudinal instruments

After they had completed the module, the teachers and students responded to the attitudinal devices. Data were collected from 109 students and 5 teachers using Plan 1, 86 students and 6 teachers in Plan 2, and 41 students and 3 teachers in Plan 3. The number of students responding to the different instruments in any one plan varied due to student absences on the days the instruments were administered. Three classes including 39 students were dropped from the sample in Plan 3. Two classes experienced a conflict in scheduling after agreeing to participate and one class had the disabled students withdrawn in the middle of the semester.

Data Analysis

Attitude toward disabled persons

The first step in scoring Form B of the Attitude Toward Disabled Persons was to change the signs of the positively worded items (1,3,4,6,7,10,12,13,22, and 26). An algebraic sum of all the item scores was then obtained and the sign of the sum was reversed from positive to negative or from negative to positive. A constant of 90 was added to the resulting score to eliminate negative values. A mean score was then computed for the home economics teachers who participated in the study.

Achievement test

Posttests completed by a total of 246 students provided data for analysis. Responses from the forms were transferred to IBM answer sheets for computer processing. Standard error and an estimate of reliability using the Kuder-Richardson formula 20 were computed. The quality of individual items was assessed by an item analysis on data provided. Information was gathered concerning item difficulty, discriminating power, and effectiveness of distractors. The difficulty index indicated the percentage of students answering an item correctly while the discrimination index indicated the extent to which high achieving students answered correctly more often than low achieving students. The distractor analysis determined how well each distractor was functioning.

To test for differences in cognitive achievement between the plans, two-way analysis of variance procedures were used. The linear model on which the analysis was based was:

$$X_{ijm} = \mu + \alpha_i = \beta_{j(i)} = \varepsilon_{m(ij)}$$

α = plan
β = class
ε = error

The level of statistical significance selected for testing was the .05 level.

Student and teacher attitudinal instruments

Mean scores were computed for the items on the student and teacher attitudinal instruments.

To determine whether differences existed in student attitudes between the plans, analysis of variance procedures were utilized. The model on which these analyses were based is the same model used to test differences in cognitive achievement. No attempt was made to analyze differences in teacher attitudes between the plans because of the small number of teachers who used each plan.

PRESENTATION AND DISCUSSION OF FINDINGS

Teacher Attitude Toward Disabled Persons

The Attitude Toward Disabled Persons, Form B, was administered to 13 participating home economics teachers at the first seminar. Data for 12 teachers were used in the analysis. The possible range of scores for Form B was 0 to 180 with larger values indicating more positive attitudes. Scores for the participating teachers ranged from 101 to 158 with a mean of 123.42. Yuker, Block, and Younng (1966) reported a mean score of 113.5 for a sample consisting of 549 nondisabled female respondents. A comparison of the mean score for the home economics teachers with the mean score reported by Yuker, Block, and Younng indicated that the participating teachers had somewhat more positive attitudes toward disabled persons.

Cognitive Achievement

The 19-item achievement test was administered as a pretest prior to the use of the module, and as a posttest following the module. The mean score for the 251 students completing the pretest was 11.25 (S.D. 3.06), while the mean score for the 25 disabled students was 8.32.

Raw scores on the 19 item posttest ranged from 0 to 18. The mean for the 246 posttest scores was 13.15 and the standard deviation was 3.08. The mean score on the posttest was 9.46 for the 24 disabled students. The ideal average or mean score for a test with selection-type items falls midway between the expected chance score and the maximum possible score (Gronlund, 1976). Therefore, the ideal average score for this test would be 12. The mean score of

13.15 is close to this ideal mean score.

Characteristics of the instrument

Estimated reliability using the Kuder-Richardson formula 20 was 0.68. The fact that the reliability coefficient is slightly lower than would be desirable could be explained partially by the length of the test. A longer test might have resulted in a higher reliability coefficient but would have been inappropriate for the mentally disabled students. Another factor relating to the low reliability might be the number of students who got 9 or more items correct. Approximately 81% of the students received scores above 50%. More difficult items on the test might have resulted in a wider spread of scores which in turn would have increased the reliability of the test.

The difficulty index for each item is found in Table 3. Although the difficulty of an item may range from 0.00 when all respondents answer incorrectly to 1.00 when all respondents answer the item correctly, a range of 0.30 to 0.70 is usually considered desirable for a test item. Some evaluators suggest a difficulty index range of .20 to .80 as this is similar to a normal distribution. Because this test was designed for mainstreamed classes, the wider range of .20 to .80 was used to evaluate the difficulty level of the items. An inspection of the difficulty indexes for the 19 items on the test shows that 13 items were in the acceptable range. Only 2 of the remaining 6 items had a difficulty index above 85.

An item has good discriminating power if its correlation is between 0.20 and 0.40, or if the standard deviation is above 0.20 for an item with a discrimination index above 0.40. Eight of the items had correlations between 0.20 and

Table 3. Difficulty, discrimination and distractor analysis of items on posttest

Item No.	Difficulty index	Discrimination index	Distractor Analysis 1/A	2/B	3/C	4/C	5/E
1	0.87	0.46	27	213*	4	-	-
2	0.93	0.37	3	15	226*	-	-
3	0.77	0.33	187*	8	47	-	-
4	0.73	0.45	42	20	178*	-	-
5	0.74	0.47	179*	37	27	-	-
6	0.71	0.37	39	27	161*	-	-
7	0.70	0.31	52	19	167*	-	-
8	0.83	0.55	10	15	9	204*	7
9	0.81	0.43	12	21	200*	6	7
10	0.28	0.19	17	68*	11	3	146
11	0.76	0.54	185*	18	7	18	17
12	0.80	0.53	48	194*	-	-	-
13	0.73	0.57	177*	66	-	-	-
14	0.81	0.47	45	198*	-	-	-
15	0.27	0.19	122	65*	54	-	-
16	0.63	0.39	150*	65	24	-	-
17	0.81	0.25	22	25	198*	-	-
18	0.61	0.35	149*	77	18	-	-
19	0.57	0.28	20	137*	85	-	-

* = correct response.

\- = no option provided.

0.40 as shown in Table 3. All 9 items with correlations above 0.40 had standard deviations above 0.20. The two remaining items had correlations of 0.19 but were considered to be discriminating between students.

The criterion often used to evaluate the effectiveness of a distractor is that it is chosen by at least one student out of 50. Therefore, distractors were considered to be functioning effectively if they were chosen by at least five

students. An inspection of the distractor analysis in Table 3 indicated that all distractors were functioning in 16 of the items.

According to Grunlund (1976), if an item is discriminating in a positive direction, all distractors are functioning effectively, and no defects are apparent, it can be considered satisfactory from a technical standpoint. Therefore, the items on the posttest generally were considered satisfactory.

Student Attitudes Toward Group Learning Centers

Mean scores and standard deviations were computed for all items on the Student Attitude Instrument. For ease of discussion, the items are grouped into four areas: attitudes toward learning center materials, attitudes toward learning center activities, attitudes toward working in groups, and attitudes toward content area.

Mean scores for each item could range from 1 to 5, with 1 indicating the most unfavorable response and 5 indicating the most favorable response. Mean scores actually ranged from 2.12 to 4.58. For purposes of this report mean scores between 2 and 3 were considered as unfavorable, scores between 3 and 4 were reported as favorable and scores of 4 were reported as very favorable.

Attitudes toward learning center materials

All three groups reported favorable or very favorable responses to item 6, reading materials; item 15, visuals; item 14, activity sheets; item 13, directions; and item 16, organization of materials within the learning centers (see Table 4). Item 11 concerning the use of tapes in the

Table 4. Means and standard deviations student attitudes toward learning center materials

Item Number	Plan 1		Plan 2		Plan 3	
	M	S.D.	M	S.D.	M	S.D.
6 - reading materials	3.36	1.29	3.97	1.08	3.67	1.14
11 - tapes	2.94	1.06	3.16	0.88	2.54	1.32
13 - separate directions	3.48	1.51	3.50	1.56	3.46	1.31
14 - activity sheets	3.48	1.21	3.50	1.14	3.46	1.47
15 - visuals	3.90	1.11	4.08	1.07	3.37	1.41
16 - material organization	3.04	1.40	3.98	1.16	3.12	1.42
21 - activity directions	3.09	1.28	3.79	1.20	3.15	1.31

learning centers was the exception. Students using Plan 2 generally had favorable attitudes toward the use of tapes in the learning centers while students in Plans 1 and 3 reported slightly unfavorable responses. During visits to schools and through discussions with participating teachers it became apparent that while most teachers allowed students to use the tapes as they had a need, two classes in Plan 1 were required to listen to the tape and two classes, also in Plan 1, were not given the option of using the tapes. This difference in use of the tapes may have influenced the students' attitudes.

Attitudes toward learning center activities

Student attitudes toward the learning center activities were varied. An inspection of the mean scores in Table 5 indicated that all three groups generally expressed favorable attitudes toward the activities which involved "doing"

Table 5. Means and standard deviations student attitudes toward learning center activities

Item Number	Plan 1		Plan 2		Plan 3	
	M	S.D.	M	S.D.	M	S.D.
1 - activities boring	2.81	1.29	3.01	1.31	2.12	1.19
8 - use of time	3.46	1.35	4.02	1.07	2.46	1.42
9 - teacher help	2.89	1.45	3.60	1.26	2.80	1.25
10 - difficulty level	3.11	1.23	3.83	1.01	2.88	1.27
18 - "hands-on"	3.61	1.22	3.75	1.12	3.49	1.43
19 - amount of work	3.74	1.32	3.78	1.28	3.68	1.47
20 - work sheets	2.61	1.23	3.55	1.20	2.49	1.36

things with concrete items, such as labels, hangtags, and real food or clothing (item 18). The students in all three plans tended to have unfavorable attitudes toward activities which involved filling out work sheets (item 20).

Students using Plans 1 and 2 consistently reported favorable or very favorable attitudes toward the items concerned with student use of time (item 8), amount of work in the learning centers (item 19) and difficulty level of the activities (item 10). Students using Plan 3 generally reported unfavorable responses indicating that they may have wasted time and the activities may have been too easy. Of the four classes in Plan 3, three were composed of 9th grade students. The negative responses of students using Plan 3 might be an indication that the materials were more appropriate for 8th than for 9th grade students.

Students using Plans 1 and 3 reported unfavorable attitudes to the first item indicating that the activities

were boring. Students in Plan 2 were neutral with a mean score of 3.01. This difference in response might be explained by the fact that students using Plans 1 and 3 worked on more activities than students in Plan 2. Although an attempt was made to provide variety, some of the activities may have been repetitious within Plans 1 and 3. Another possible explanation for the response might be the placement and wording of the item.

The mean score for item 9, concerning the length of time the students waited for help from the teacher, may also reflect the fact that students in Plans 1 and 3 worked on more activities. Students using Plans 1 and 3 generally reported unfavorable responses while those in Plan 2 reported favorable responses.

Attitudes toward working in groups

Students in all three groups indicated favorable attitudes toward group work, as shown in Table 6. However, it appears by their responses to item 22 that they would have preferred working with different people. Students using Plan 3 expressed less favorable attitudes on this item than

Table 6. Means and standard deviations student attitudes toward working in groups

Item Number	Plan 1		Plan 2		Plan 3	
	M	S.D.	M	S.D.	M	S.D.
2 - working small groups	3.92	1.16	3.80	1.19	3.50	1.29
3 - helping others	3.83	1.10	3.56	0.92	3.83	0.96
5 - participating in group	4.46	0.87	4.13	1.01	4.86	1.03
7 - receiving help	3.38	1.32	3.40	1.22	3.33	1.20
22 - working other groups	3.07	1.51	3.00	1.49	2.56	1.48

students in Plans 1 and 2. Several of the teachers commented that some of the groups did not work well together and that they would have switched group members had they not been participating in the study.

Item 5, pertaining to participation in the groups, received very favorable responses from all three groups. This would seem to confirm the original theory that small group activity encourages student participation.

Attitudes toward content area

Attitudes concerning consumer information as a content area ranged from favorable to very favorable for all three groups (see Table 7). The need to study advertising, item 12, received the lowest mean scores but was still regarded favorably. The importance of using reliable consumer information, item 4, and the need to know about federal laws, item 23, received the highest mean scores.

In summary, students in all three plans tended to express favorable attitudes toward the group learning centers.

Table 7. Means and standard deviations student attitudes toward content area

Item Number	Plan 1		Plan 2		Plan 3	
	M	S.D.	M	S.D.	M	S.D.
4 - reliable consumer information	4.58	0.85	4.58	0.74	4.36	0.95
12 - advertising	3.72	1.24	3.64	1.33	3.22	1.45
17 - sources of consumer information	4.06	1.04	3.88	1.27	3.59	1.26
23 - federal laws	4.40	0.98	4.49	0.88	4.17	1.02

The very favorable responses toward small group participation lends support to the use of small group activity in mainstreamed classrooms.

Teacher Attitudes Toward Group Learning Centers

Means were computed for each item on the device, Teacher Attitudes Toward Learning Centers. For ease of discussion the items are grouped according to the following dimensions: learning center strategy, group work, learning center materials, content, implementation of learning centers and provisions for the disabled.

Attitudes toward the learning center strategy

The teachers responded favorably or very favorably to the learning center strategy as shown by the means in Table 8. They expressed favorable attitudes toward learning centers as a means of teaching mainstreamed classes (item 19) and as a way of freeing them to work with students who needed help (item 1).

Table 8. Means and standard deviations teacher attitudes toward the learning center strategy

Item Number	Mean	S.D.
1 - free to help students	4.21	0.80
7 - use LC again	4.50	0.65
11 - develop LC units	3.89	0.89
18 - students enjoy	3.43	1.22
19 - consumer education	4.21	0.89
22 - rotation	3.21	1.12

As indicated by their responses to item 7, most of the teachers agreed that they would use learning centers again if materials were available. The mean response to item 11 indicated somewhat less favorable attitudes toward developing their own learning center materials. A possible explanation for this less favorable response is that teachers do not feel they have the time to develop their own learning center materials. Teachers generally agreed that students enjoyed working in learning centers as shown by the mean response to item 18. In addition, they somewhat agreed that activities were interesting to students even when other groups had already completed the same activities (Plan 1 or 3).

Attitudes toward group work

Attitudes toward various facets of group work differed (see Table 9). The teacher's responses to item 13 indicated that the nondisabled students were more willing to work with the disabled students as a result of the experience. Their responses were generally negative to item 14, indicating that one student usually dominated the group. This may be an indication that although there was

Table 9. Means and standard deviations teacher attitudes toward group work

Item Number	Mean	S.D.
10 - work sheets	2.21	1.42
13 - working with disabled	3.21	1.36
14 - one student dominated	2.07	1.20
24 - working in groups	3.57	0.93

interaction between the students within the learning centers, one student took the leadership role most of the time, and this role did not rotate among all of the group members. This situation might be avoided if the teacher emphasized changing group leaders or assigned different students to function as the leader on different days.

The responses of the teachers to item 24 indicated that they did not believe that students learn more by doing their own work than by working in groups. However, a negative response to item 10 indicated that they believed all students should fill out an individual work sheet when doing group work. One implication of these responses might be that requiring all students to fill out a work sheet would insure the participation of all students in the group learning activities.

Attitudes toward learning center materials

Very favorable responses were reported for items 29 and 32 pertaining to the visual materials and teacher directions (see Table 10). The teachers also reported very favorable attitudes toward using the materials with future classes (item 15).

Table 10. Means and standard deviations teacher attitudes toward learning center materials

Item Number	Mean	S.D.
2 - level of difficulty	2.79	1.31
15 - future use	4.57	0.64
29 - visuals	4.64	0.49
32 - teacher directions	4.64	0.49

The only negative response was to item 2 concerning the appropriateness of the difficulty level of the materials. Informal discussions with various teachers indicated that some of the materials were too difficult for some classes and too easy for others. These comments suggest that classes vary considerably among school districts, and that for future classroom use each teacher might need to adapt the materials to suit her classes.

Attitudes toward content area

Extremely favorable responses to all items concerning the content area were reported by the teachers indicating that teachers believe consumer information is an important topic to include in home economics. Mean scores for the items ranged from 4.93 to 5.00 (see Table 11).

Table 11. Means and standard deviations teacher attitudes toward content area

Item Number	Mean	S.D.
4 - consumer information	5.00	0.00
12 - advertising	4.93	0.26
16 - federal laws	4.93	0.26
26 - reliable information	4.93	0.26

Attitudes toward implementation of learning centers

Very favorable responses were reported for items 5, 23, and 25 which concerned the teacher's involvement in grouping students, implementing the learning center strategy,

Table 12. Means and standard deviations teacher attitudes toward implementation of learning centers

Item Number	Mean	S.D.
5 - grouping	4.57	0.51
8 - becoming familiar materials	3.43	1.28
17 - student materials	3.21	1.05
23 - implementing LC	4.50	0.65
25 - style of teaching	4.36	1.08
27 - time for module	2.21	1.31
30 - packet organization	2.21	1.13
31 - changing groups	3.50	1.60

and fitting the prepared materials into their styles of teaching (see Table 12). These favorable responses would seem to indicate that learning centers can be implemented in home economics classes with little difficulty. Item 8, pertaining to the amount of time the teachers needed to become familiar with the materials received a slightly lower, but still generally favorable response. An observation made informally by the teachers may explain this less favorable response. It required extra time for the teachers to become familiar with the materials because they had not developed them personally.

Responses to item 17, concerning the ease with which students found the materials in the packets, and item 30, concerning how well the materials were organized in the packets, received favorable responses. The only unfavorable response was to item 27, indicating that the teachers believed that a two-day period was too long to spend on

each objective. Individual responses to this item ranged from 1 to 4. Because the materials were developed for use in classes which ranged from 35 to 60 minutes in length, some flexibility was planned into the activities. However, it appears that there were not sufficient learning activities to fill the longer class periods.

Attitudes toward provisions for the disabled

Overall attitudes toward provisions for the disabled were favorable to very favorable (see Table 13). Very favorable responses were reported for item 21, the prepared low level reading materials, and item 28, concrete learning experiences. Item 20 concerning the use of tapes received a lower score, but was still regarded favorably.

Items 3, 6, and 9 pertained to provisions which were inherent in the teaching strategy. As indicated by the mean for item 6, the teachers agreed that group learning centers encouraged peer tutoring. Item 3, indicating whether students seemed to enjoy teaching each other,

Table 13. Means and standard deviations teacher attitudes toward provisions for the disabled

Item Number	Mean	S.D.
3 - teach-back	3.64	0.92
6 - peer tutoring	4.21	0.69
9 - disabled students	3.79	1.12
20 - tapes	3.64	1.08
21 - reading materials	4.79	0.42
28 - concrete learning materials	4.57	0.64

received lower but still favorable responses. The favorable responses to item 9 indicated that the teachers believed the disabled students benefited from working in the learning centers.

In summary, teacher attitudes were positive toward the use of group learning centers as a teaching/learning strategy for use in mainstreamed classes. Teachers agreed that group learning centers facilitated instruction for mildly disabled students and typical students working together within a common classroom.

The teachers responses indicated that they believed the use of group learning centers freed them to help students who needed help and encouraged peer tutoring among students working in the centers. In addition teachers agreed that the strategy was an effective way to provide hands-on activities in a nonlaboratory instructional area. Participating teachers indicated that they would use group learning centers again, especially if materials were available.

Comparison of Plans

One of the purposes of the study was to compare the differences between the three strategies for using group learning centers. Therefore, analysis of variance procedures were used to test for significant differences between plans in cognitive achievement and in student attitudes.

Differences in cognitive achievement

Differences between pretest scores and posttest scores were calculated for all students. The average difference or gain score was 1.90 for all participating students and

1.14 for the disabled students. These difference scores indicated that learning took place as a result of the modules for both typical and disabled students.

The average difference score was 2.09 for Plan 1, 1.81 for Plan 2, and 1.67 for Plan 3. Analysis of variance procedures were used to test whether statistical significant differences in cognitive achievement occurred between the plans. The resulting F-ratio was .14 indicating no significant differences in level of cognitive achievement. In addition, no significant differences in cognitive achievement were found between the participating classes (F = 1.81), an F of 1.96 was needed for significance at the .05 level. These statistically nonsignificant differences imply that students in Plan 2 who did not work on all generalizations directly, but concluded some generalizations through group reports, learned as did the students in Plans 1 and 3 who worked directly on more generalizations.

Differences in student attitudes

F-ratios resulting from a two-way analysis of variance using plan and class as sources of variance are presented in Table 14. The F-ratios in the left column of the table are the overall F-ratios from the two-way analysis of variance, those in the middle column are the results of plan as a source of variance, and those in the right column are the results of class as a source of variance. The items are grouped into the categories discussed earlier: learning center materials, learning center activities, working in groups and content area.

To determine if there were differences between plans, the F-ratios for plans were inspected. To further interpret the significant F-ratios the means in Tables 4, 5, 6, and 7

Table 14. F-ratios for plan and class as related to student attitudes

Item Number	F-ratios		
	Overall	Plan	Class
Learning Center Materials			
6 - reading materials	3.05**	5.54**	2.63**
11 - tapes	2.08*	7.18**	1.23
13 - separate directions	2.25*	1.02	2.45**
14 - activity sheets	1.20	1.92	1.08
15 - visuals	3.14**	9.77**	2.03*
16 - material organization	4.75**	13.98**	3.22**
21 - activity directions	2.00*	6.58**	1.24
Learning Center Activities			
1 - activites boring	3.66**	6.67**	3.16**
8 - use of time	2.61**	12.47**	.96
9 - teacher help	2.96**	3.73**	2.83**
10 - difficulty level	1.73	2.34	1.62
18 - "hands-on"	1.59	1.37	1.62
19 - amount of work	1.80	.09	2.09*
20 - work sheets	1.88	.90	2.04*
Working in Groups			
2 - working small groups	1.52	3.64*	1.17
3 - helping others	1.27	.79	1.35
5 - participating in groups	2.25*	1.88	2.31*
7 - receiving help	2.63**	.53	2.98**
22 - working other groups	2.30*	2.70	2.23*

*Significant at $P < 0.05$.
**Significant at $P < 0.01$.

Table 14 (continued)

Item Number	F-ratios		
	Overall	Plan	Class
Content Area			
4 - reliable consumer information	1.67	.94	1.80
12 - advertising	2.21*	2.56	2.15
17 - sources of consumer information	2.17*	1.81	2.23*
23 - federal laws	1.66	1.19	1.74

were examined. No attempt was made to interpret the significant F-ratios for class as a source of variance. The primary reason for looking at class was to make sure that significant overall F-ratios were really plan differences and not class differences.

Learning center materials

Items concerned with learning center materials which resulted in significant overall F-ratios were item 6, low level reading materials; item 11, use of tapes; item 13, separate direction sheets; item 15, visuals; item 16, organization of materials; and item 21, ease of understanding directions. Plan was a significant source of variance for all of the items mentioned above except the one pertaining to separate direction sheets. In every instance, means scores indicated students using Plan 2 expressed more positive attitudes than those in Plans 1 and 3.

One possible explanation for the difference in attitudes toward the items related to organization of materials and ease of understanding directions may have been that students using Plan 2 completed fewer activities than students using Plans 1 and 3, and therefore had fewer materials to locate and fewer directions to read and interpret.

The low level reading materials and visuals used in the learning centers were identical in all plans. The more positive attitudes by students in Plan 2 may be explained by the fact that each group in Plan 2 used only a few of these materials, while in Plans 1 and 3 each group worked with all the materials and visuals.

Although the teaching module directions had suggested that the tapes be made available for use by the students as they expressed a need, several teachers in Plan 1 indicated that they required all students to listen to the tapes. Several other classes in Plan 1 were not given the option of using the tapes. This may have resulted in the significant difference in student attitudes to item 11.

Learning center activities

Three of the five items pertaining to learning center activities resulted in significant overall F-ratios. These items related to whether the activities were boring (item 1), whether the students wasted time (item 8), and whether they waited too long for help from the teacher (item 9). Inspection of the plans as a source of variance indicated that the plans were a significant source of variance in the three items tested above. Students using Plan 2 reported significantly more positive responses than students in Plans 1 and 3.

A FLOW CHART: PROCEDURES FOR TEACHING SKILLS FOR LIVING IN CLASSES WHERE MILDLY HANDICAPPED PUPILS ARE INTEGRATED WITH NONHANDICAPPED PUPILS

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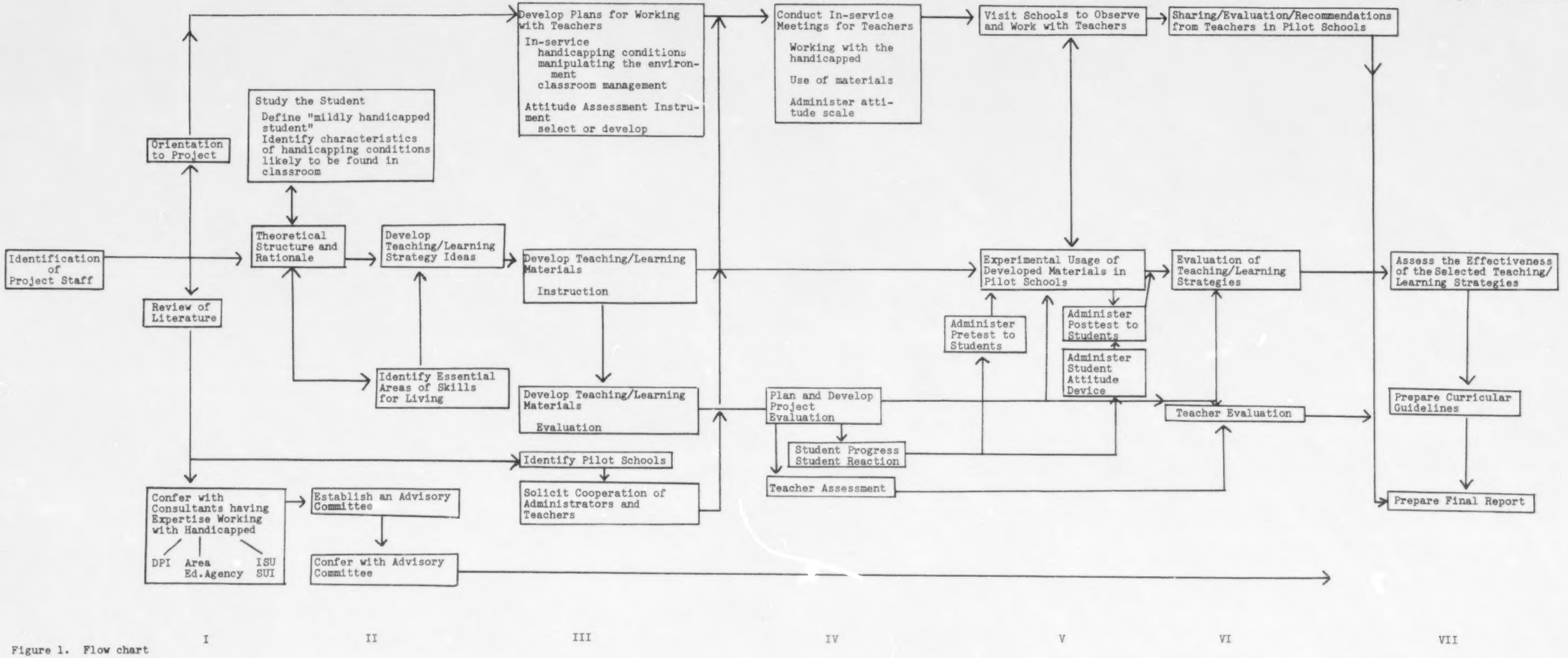

Figure 1. Flow chart

The statistically significant differences between plans on the items concerned with wasting time and waiting too long for help from the teacher may have occurred for several reasons. Because groups in Plan 2 completed fewer activities they may have needed less direction from the teachers than the groups in Plan 1 and Plan 3. In addition, the largest classes, containing 24, 26, 22 students, were assigned to Plan 1 and required five or six learning centers. Because these teachers had to divide their time between more centers it is possible these groups had to wait longer for assistance. The time spent waiting for teacher direction may have seemed wasted to the students.

Some of the activities in Plan 1 and Plan 3 included overlapping concepts and may have seemed repetitious and thus boring to some of the students. This may account for the significant difference between plans for item 1.

Working in groups

Significant overall F-ratios resulted for three of the items related to working in groups. These items concerned group participation (item 5), help received (item 7), and preference for working with different people (item 22). These significant overall differences were due to class rather than plan as the source of variance. The only significant F-ratio using plan as a source of variance was for item 2, whether or not students liked working in small groups. Students using Plans 1 and 2 indicated more positive responses than students in Plan 3. The three classes assigned to Plan 3 which completed the pilot study were all in the 9th grade. This may or may not have been a factor in the significant difference between plans.

Content area

Two of the four items assessing attitudes toward content resulted in significant overall F-ratios. These two items concerned studying advertising and knowing sources of consumer information. Further investigation revealed that there were no significant F-ratios for plan as a source of variance. Class was a significant source of variance only for the item pertaining to knowing sources of consumer information. Most of the responses to consumer information as content area were quite positive.

Inspection of the F-ratios in Table 14 reveals statistically significant differences on student attitudes a result of the plan to which they were assigned. In almost every instance where there were significant differences, students in Plan 2 expressed more favorable attitudes than students in Plans 1 and 3 as shown by mean scores. In one instance students using Plans 1 and 2 expressed attitudes which were significantly more positive than students in Plan 3.

Observations of Mildly Physically Disabled Students

Five physically disabled students were included in the final sample of the study. These students were observed by staff members as they visited each class during the time the teaching modules were in use. The handicapping conditions included partial hearing loss, visual problems (not total blindness) and mild palsy.

The staff observations and the observations of the teachers of these students in relation to the specific handicapping conditions are summarized below. When participating as a member of a group in the learning center,

the student with--

mild palsy:

1. completed an individual worksheet which required only checking.
2. completed the evaluation devices without assistance.
3. participated in all activities in the learning center with peer assistance.

visual problems:

1. listened to the tapes provided of the material contained in the reference booklets.
2. participated in group discussions, as a member of the group read aloud from the Group Directions packet.
3. completed the evaluation devices which the teacher read aloud.
4. participated in the teach-back (Plan 2) as a member of the learning center group.

partial hearing loss:

1. read the booklets provided.
2. read from an extra copy of the Group Directions packet to follow the directions as these were read aloud in the learning center.
3. contributed to group discussions.
4. used lip reading effectively in small group setting.
5. heard more easily when working closely with a small number of students.

The provisions included in the module for students with mild physical disabilities seemed to function as intended.

All teachers reported that the support provided by peers working with the physically disabled students in the group learning centers encouraged their active participation.

Informal Teacher Observations and Suggestions

A seminar to further evaluate the effectiveness of the project was held following the field-testing of the learning center teaching modules. Participating teachers were encouraged to share their experiences and conclusions in informal discussions. The basic questions which guided these discussions including a summary of the most frequently stated responses are given below.

1. Which statements made in the rationale for using learning centers in mainstreamed classes proved to be true with your class(es)?
   - Socialization among students was increased.
   - Good participation by all students, even those with disabilities participated in group reports (Plan 2).
   - None of the statements should be eliminated.
2. In the specific plan you used, what observations did you make regarding: grouping students, classroom management, presentation of concepts by teacher, and/or others in general?
   - Grouping students:
     - Learning centers do not function well with only 2 students or with more than 5 students.
     - Disabled students should not all be in the same group.
     - Social preferences among students should be considered in grouping.
     - Leadership roles in groups were assumed by students who were not expected to do so.
     - A student with whom a disabled child has worked before should be included in his/her group.
   - Classroom management:
     - Materials in learning centers should be color coded for easy identification.
     - Materials should be placed in boxes, not envelopes, for easier storage.

- Unit should be taught in one complete session, not at intervals throughout one month.
- Group learning centers permit the teacher to more quickly identify students who need help.

- Concepts presented by teacher:
  - When presented at beginning of each objective (Plan 2) the concepts gave focus to the activities.
  - Too many concepts to present at one time (Plan 1); after first introduction by teacher a tape should be provided covering the specific concepts pertinent to each learning center and should be placed in the center.
- In general:
  - Group reports (teach-back) were effective, all students participated.
  - Plan 2 provided more opportunity for teacher to summarize and/or correct misconceptions.
  - Tapes with booklet were very effective; head phones, if available, limit distraction to other groups.
  - More optional activities would be beneficial for groups who functioned more quickly than others.

3. What types of activities included did you feel were most appropriate for learning centers?
   - Using "hands-on" materials such as food and clothing labels.
   - Making posters.
   - Finding examples of information available in magazines and newspapers.

4. What other home economics subject areas would be appropriate for learning centers?
   - Metric system
   - Color (as in clothing or interior decoration)
   - Interior decoration
   - Certain portions of child development units
   - Other areas of consumer education

5. What assistance do you receive from the resource teacher(s) in your school?

   There was no agreement among participants concerning availability of help from resource teachers. Contribution of resource teachers varied considerably from school to school.

6. How usable were the student evaluation devices: achievement test and attitudinal device?

   - Reading aloud the student attitude device helped. Any items they did not understand could be explained immediately.
   - Cell items in the student attitude device should have been worded positively. Students had trouble with the negatively stated items.
   - Students were able to use the 5-point scale to respond to the items on the attitudinal device.
   - Mentally disabled students had problems with the matching items on the achievement test.
   - The three option multiple choice items were appropriate for both the typical and the disabled students.
   - Disabled students needed to have the test read to them.

CONCLUSIONS AND RECOMMENDATIONS

Group learning centers as a teaching/learning strategy were effective when used in mainstreamed classes in this study. As discussed in the finding, cognitive growth occurred for both the typical and mildly mentally disabled students. Although the gain was not as great for the mentally disabled students, it was consistent with their learning rate. Because cognitive growth took place among students in all three plans, it appears that students in Plan 2, who did not work directly on all generalizations, were able to conclude these generalizations from the group reports (teach back).

Student attitudes toward the learning center strategy were generally positive in all plans. However, those who were assigned to Plan 2 expressed significantly more positive attitudes. In all three plans the students responded very favorably to participating as a member of a group.

Participating teachers displayed positive attitudes toward the use of group learning centers. Specifically, teachers expressed very favorable attitudes toward the socialization which occurred as students worked together as a group to accomplish a common goal. In addition, peer tutoring which took place in the learning centers was viewed as a positive attribute of the strategy.

As a result of this study, the following recommendations are made for using group learning centers in mainstreamed classes:

1. Provide additional activities for enrichment and reinforcement in an auxiliary learning center. This would accommodate students whose group completed the activities in an assigned learning center more quickly than other groups.

2. Use the group learning center teaching module completely in one time block rather than in two day periods over one month.
3. Place only one disabled student in a group learning center. Also, if possible, a classmate with whom the disabled student has worked previously should be included. An optimum group size is 3 to 5 students.
4. Include three option multiple choice items but eliminate matching items when constructing evaluation devices for use in mainstreamed classes. Use only positively stated items when constructing attitudinal devices for these classes.
5. Develop teaching modules for group learning centers in other subject matter areas.

Recommendations for future study and research include:

1. Design and test group learning centers with activities based upon different levels of objectives--within the same center (or) in different centers within the same classroom.
2. Develop low level reading materials for use in junior and senior high school classes in all areas of home economics.
3. Compare the effectiveness of group learning center strategy with other teaching strategies in mainstreamed classrooms.
4. Study further the strategy of Plan 3, as it appears to have limitations as developed and tested in this study.
5. Investigate the characteristics of typical students which enable them to work cooperatively with a disabled student in a learning center group.
6. Observe the interrelationship and interaction between typical and disabled students to study the factors that encourage or hinder growth in social acceptance.

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APPENDIX A. CORRESPONDENCE

Letter 1

IOWA STATE UNIVERSITY

Department of
Home Economics Education
166 LeBaron Hall
Ames, Iowa 50011

Telephone 515-294-6444

November 10, 1976

Special Education Director
Lakeland AEA III
Cylinder, Iowa 50528

Dear Ms. Morrison:

A study is underway in the Home Economics Education Department, Iowa State University, to develop teaching-learning strategies to be used with classes in home economics that have integrated physically and/or mentally disabled students with regular students at the present time. We are needing to identify schools, where classes are mainstreamed at 8th and/or 9th grade levels, that we can contact to seek assistance in field testing our materials.

We are soliciting your help in identifying potential pilot schools in Area 3 . If you can provide the names of the school districts and schools where such organization exists, we will contact the administrators and teachers involved to gain their cooperation.

Enclosed is a form and return envelope for your reply which we would appreciate receiving at your earliest convenience. If you have any question concerning our request, please call me at 515-294-1234.

Thank you for making this contribution to the project.

Sincerely,

Eleanore L. Kohlmann

Eleanore L. Kohlmann
Professor

ELK/ds

Enclosure: (2)

Letter 1 - enclosure

Schools within systems in Area ____ where physically and/or mentally disabled students at 8th and/or 9th grades are mainstreamed in home economics classes.

SCHOOL	SCHOOL DISTRICT	(Check as appropriate) PHYSICALLY DISABLED	MENTALLY DISABLED	BOTH

Letter 2

Department of
Home Economics Education
166 LeBaron Hall
Ames, Iowa 50011

IOWA STATE
UNIVERSITY

Telephone 515-294-6444

With federal legislation now mandating that public schools integrate students with mental and/or physical disabilities into regular classes, there is greater awareness of the problems encountered by teachers in effectively instructing pupils with a wide range of abilities in the same classroom. A study is underway in the Home Economics Education Department, Iowa State University, to develop teaching-learning strategies to be used with classes in home economics that have integrated mildly physically and/or mentally disabled students with regular students. The Special Education Division of your Area Education Agency has informed us that your school has home economics classes that are so mainstreamed at the 8th and/or 9th grade level.

We are soliciting your possible cooperation and the active participation of your home economics teacher to assist in field testing the materials we are developing. The implementation of the developed teaching-learning strategies in 8th and/or 9th grade classes would cover a period of approximately two weeks sometime in March and/or April. In addition, as orientation to the project and in preparation for use of these materials, we would like your home economics teacher to attend a one day seminar, the date to be determined later at the convenience of the majority of participating teachers.

If you are willing to be considered as one of the pilot schools to assist us, would you please fill out and return the enclosed postcard and give the remainder of the enclosed materials to the home economics teacher for her to complete and return. If you are not willing to participate, just place all of the materials in the enclosed envelope and return them to us. We would appreciate your reply at your earliest convenience. If you have any questions concerning our request, please call me at 515/294-1234.

Once we have received all the returns, we will select those schools most nearly meeting our criteria for participation. We will let you know whether or not your school has been selected as soon as possible. Thank you for your consideration. We hope to have the opportunity to work with your students and home economics teacher.

Sincerely,

Eleanore L. Kohlmann
Professor

Enc.

Letter 2 - enclosure

January 7, 1977

I am (am not) willing for the home economics classes to be involved in field testing the teaching/learning strategies for Mainstreamed classes.

I have (have not) given the enclosed materials to Miss/Mrs._____(home economics teacher) for her response.

_____
Principal

Date: January 7, 1977 Letter 3

To: Home Economics Teacher

From: Dr. Eleanore L. Kohlmann, Professor
Home Economics Education Department
Iowa State University

Eleanore L. Kohlmann

We are asking your principal to give you this memorandum and response form which we included in a letter of introduction to him, as we do not have available the names of home economics teachers to contact you personally.

An increasing number of home economics teachers are assuming the responsibility for providing meaningful, effective instruction for students of wide variance of abilities within the same class situation. The Special Education Division of your Area Education Agency gave us the name of your school as one in which mildly mentally and/or physically disabled youth were integrated with students in the regular classes of home economics. Because of your situation, we are soliciting your possible cooperation in field testing some instructional materials that are being developed to assist teachers with the problems of meeting individual differences in a mainstreamed class situation.

We are expecting to have the experimental materials available for your use around the middle of March. They will involve an aspect of study in an area that you indicate to us you plan to be teaching during the latter part of the spring semester. Our experimental work is not so innovative in content as in instructional strategy.

As preparation for testing the materials with your 8th and/or 9th grade classes, we would like for you to attend a one-day seminar at some central location in the state in early March. Your travel expenses for the meeting will be reimbursed.

If your principal is willing for you to work with us and you, too, are willing to assist us with the pilot testing we would appreciate having you supply us with certain information we need to complete our planning. We will summarize the information on the returned completed forms and make a final selection of pilot schools. You will be notified very shortly whether or not we will be able to work with you as we anticipate there may be some situations too different from the others to make them feasible for us to pursue our efforts.

We will be anxious to receive your completed form within the next week and look forward to possibly working with you and your students on problems of concern to all of us. If you have any questions concerning our request, please call me at 515/294-1234.

Letter 3 - enclosure

I.S.U., H.Ed.
1/7/77

To be completed by the home economics teacher:

SCHOOL _____

TOWN _____

HOME ECONOMICS TEACHER _____

PHONE number where you can be conveniently reached _____

Best time to call you _____

Mainstreamed classes: (containing both regular students and mentally and/or physically disabled students)

	Class Period	Time	No. of Pupils Boys	Girls	No. of Handicapped Mentally	Physically
8th Grade						
9th Grade						

Units tentatively scheduled to be taught during March and April:

	MARCH			
	Week 1	2	3	4
8th Grade				
9th Grade				

	APRIL			
	Week 1	2	3	4
8th Grade				
9th Grade				

When would it be most convenient for you to participate in a seminar? Mark your preference:

School day _____ Saturday _____
If during the week, indicate which day(s): _____

Have you had help in preparing for the integration of handicapped (mentally and/or physically) students into your regular class situation: no ___ yes ___

How: In-service course work __ In-service provided by school district or Area Ed. Agency __ Resource person _____ Other _____

Letter 4

IOWA STATE
UNIVERSITY

Department of
Home Economics Education
166 LeBaron Hall
Ames, Iowa 50011

Telephone 515-294-6446

We are very pleased that you have indicated willingness to participate in the field testing of the instructional materials developed for use in classes integrating mildly mentally and/or physically disabled youth in the regular home economics classroom. The instructional materials are now nearing completion and we are proceeding with plans for their trial use.

As you will recall we asked in the initial letter whether you could attend a one-day seminar prior to the onset of the field testing. At this time the use of the materials will be explained and you will have an opportunity to clarify any questions you might have. We have tentatively set Monday, March 21, as the date for the seminar which will be held here at Iowa State. Some of you may need to arrive on campus Sunday evening because of driving distance. Please mark this date on your calendar, and you will be receiving more detailed information concerning time and location later.

If you would verify on the enclosed postcard the information you sent us earlier on the response form, we can be sure we have prepared an adequate amount of illustrative materials for each school. We would appreciate having the card returned at your earliest convenience.

We are looking forward to working with you and your students.

Sincerely,

Eleanore L. Kohlmann
Professor

ELK:mm

Enclosure

Letter 4 - enclosure

2/21/77

SCHOOL_____

CLASS_____

TIME_____

TOTAL NO. OF STUDENTS_____

NO. OF M/P DISABLED STUDENTS_____

AREA/APRIL_____

signed:

Letter 5

Department of
Home Economics Education
166 LeBaron Hall
Ames, Iowa 50011

IOWA STATE
UNIVERSITY

Telephone 515-294-6444

We do appreciate your willingness to participate in the study involving the integration of mildly mentally and/or physically disabled students into the regular home economics classroom, and the time you used in filling out and returning the response sheet. However, in summarizing the information on the response forms, we find the situation in your school is too different from the other schools to make it feasible to include your classes in the study.

The response forms have been kept, so that we might call on you for assistance at some future time. We will share what we learn from our study with you as soon as possible as we are finding teachers are seeking help as much as we are.

Thank you for your consideration of our needs and your cooperation.

Sincerely,

Eleanore L. Kohlmann
Professor

ELK:mm

Letter 6

Department of
Home Economics Education
166 LeBaron Hall
Ames, Iowa 50011

Telephone 515-294-6444

IOWA STATE
UNIVERSITY

March 8, 1977

The mainstreaming seminar for teachers who are field testing the teaching/learning strategies for classes integrating students with mental and/or physical disabilities will be held on Monday, March 21 on the Iowa State University campus. We will begin at 9:30 a.m. in Room 8 of Carver Hall, and plan to conclude promptly at 3:30 p.m. Luncheon reservations have been made for the group at the Cardinal Room in the Union.

For your convenience we suggest you leave your car in the parking ramp at the Memorial Union, and walk to Carver Hall which is quite close. Both locations are marked with an X on the enclosed map. Reimbursement forms will be filled out before you leave on Monday, so will you please record your mileage driving to Ames, which we will double to obtain your total mileage.

If you have more than a two hour drive to reach Ames, we would be happy to reserve a room at the Union for Sunday night, March 20, if it would be more convenient for you. We hope you would not mind sharing a double room with twin beds. Just return the enclosed postcard as soon as possible, and we will confirm a reservation for you.

We are looking forward to working with you, and hope you have a pleasant trip to Ames.

Very Truly Yours,

Barbara Rougvie

Barbara Rougvie
Instructor
Mainstreaming

BR:mm

Enclosures

Letter 7

Department of
Home Economics Education
166 LeBaron Hall
Ames, Iowa 50011

IOWA STATE
UNIVERSITY

Telephone 515-294-6444

April 26, 1977

Those of us here at Iowa State working on the Mainstreaming Project have enjoyed so much our visits during the past month to the schools participating in the study. As all of us have taught in classrooms similar to those we have visited, our discussions while driving back to Ames have been lively and full of memories!

Enclosed are the student post-tests to be given at the end of the unit. The last question again will utilize the five mounted advertisements we sent you earlier with the pre-tests. In addition, next week you will receive student and teacher evaluation forms as we would appreciate your reactions and comments to using the learning centers. These will not be long, nor difficult to fill out.

After much discussion it has been decided to hold the final seminar here in Ames on Monday, May 16, from 9:30 a.m. to 3:00 p.m. We realize this is a busy month for all of you, but we would greatly appreciate having the group together to evaluate and compare experiences in the use of the different learning center plans, and so that we may profit from the suggestions you are so ably prepared to give as the result of the teaching you have done in integrated classes. If you would please fill out and return the enclosed postcard at your earliest convenience, we will make the arrangements accordingly. Your expenses will of course be reimbursed as before. A final confirming letter with full agenda should reach you during the second week in May.

We are looking forward to seeing you here in Ames on May 16th! Please, if you have any questions, do call.

Very Truly Yours,

Barbara Rougvie

Barbara Rougvie
Instructor
Mainstreaming

Enclosures

Letter 8

Department of
Home Economics Education
166 LeBaron Hall
Ames, Iowa 50011

IOWA STATE
UNIVERSITY

Telephone 515-294-6444

May 10, 1977

Enclosed is the agenda for the final Mainstreaming Seminar, May 16, 1977. We would like to suggest that you bring with you the project materials in the blue folders which were distributed during the first seminar.

Your reactions to and experiences in the use of the learning centers are important, and we hope to gain many valuable suggestions.

Thank you for your cooperation and the time you have given so willingly for this project.

See you on May 16th!

Very Truly Yours,

Barbara Rougvie

Barbara Rougvie
Instructor
Mainstreaming

BR:mm

Enclosure

Letter 9

Department of
Home Economics Education
166 LeBaron Hall
Ames, Iowa 50011

IOWA STATE
UNIVERSITY

Telephone 515-294-6444

April 29, 1977

We have enjoyed visiting your classes and observing your students in the learning centers. Now we would appreciate their reactions to the learning center experiences.

Enclosed you will find one Student Assessment for each of your students. Explain the five-point rating scale in a way you think your class will understand, as many probably have never responded to this type of assessment. Have your students follow along as you read each statement aloud. Please allow time for them to mark their responses after each statement. This will enable you to explain any items they do not understand and to answer any questions they may have. The Teacher Assessment is also included for you to complete.

Code the students' papers as you did for the pre- and post-tests. Return all of the completed assessments in the envelope provided. We appreciate your cooperation.

Sincerely,

Jerelyn B. Schultz
Assistant Professor

Judy Davisson
Graduate Assistant

Enclosures

APPENDIX B. AGENDA FOR MEETINGS

Agenda 1 September 28, 1976

ADVISORY COMMITTEE MEETING

Mainstreaming in Home Economics

AGENDA

Introduction of staff members:

Judith (Judy) Davisson
Eleanore L. Kohlmann
Judith Purdum
Barbara Rougvie
Jerelyn Schultz
Susan Wilder

Introduction of Advisory Committee members:

Deone Bachellor . . . . . Area Education Agency
Merry Maitre . . . . . Special Education, DPI
Jacquelyn Yep . . . . . Extension Specialist (Physical Handicapped)
Grace Young . . . . . University Hospital School
Dorothy Brown . . . . . Career Education, DPI (Ex - Officio)

Presentation of the Agenda

Objectives and procedures as stated for the project . . . Barbara Rougvie

Working definitions . . . Susan Wilder

Plan of work as shown by flow chart . . . Judy Davisson

Presentation and validation of characteristics of the typical, mentally handicapped, and physically handicapped students

Identifying schools with mainstreaming in home economics of both mentally and physically handicapped students

. . . to visit for observation purposes

. . . to become involved as pilot schools in the study

Agenda 2

March 21, 1977

MAINSTREAMING SEMINAR

Carver Hall - Room 8 Iowa State University

Agenda

Introduction of staff members

Introduction of participating teachers

Presentation of Agenda

9:30-11:30

Overview of mainstreaming project . . . . . B. Rougvie
Characteristics of learners . . . . . Judy Davisson
Implications for home economics teachers
Skills for living . . . . . Susan Wilder
Learning centers. . . . . Judith Saleh
Evaluation. . . . . Jerelyn Schultz
Assignment of teaching modules. . . . . B. Rougvie

11:45-1:15 Lunch
Cardinal Room, Memorial Union

1:30-2:50

Room 101 - McKay - Plan 1
Room 106 - McKay - Plan 2
Room 164 - LeBaron - Plan 3

3:00-3:30

Room 164 - LeBaron
Teacher assessment scale
Reimbursement sheets
Coffee and adjourn

May 16, 1977

Agenda 3

Mainstreaming Seminar

LeBaron Hall, Room 164 Iowa State University

Agenda

Overview

Presentation of Agenda

9:30 - 10:45 Rationale for Learning Centers

Are learning centers an effective teaching/learning strategy for mainstreamed classes?

10:45 - 11:30 Teaching Module

Plans I, II, III - How did they function?

11:30 - 1:15 Lunch, Tea Room, MacKay Hall

1:15 - 2:30 Mainstreamed Classes

What recommendations can be made for further study?

Curriculum---teaching/learning strategies---classroom management

2:30 - 3:00 Evaluation Devices

How usable were the tests and reaction devices for these classes?

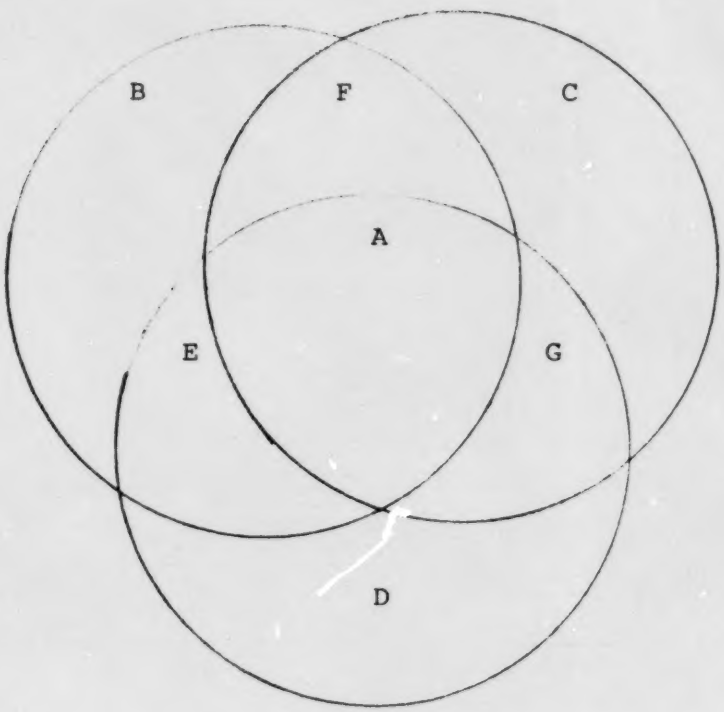
3:00 Coffee

APPENDIX C.

BASES FOR DEVELOPMENT OF TEACHING MODULE

Mainstreaming Seminar
Project 400-27-06
3/21/77

CHARACTERISTICS OF 8TH, 9TH GRADE STUDENTS



A. All groups of 8th and 9th grade students

B. Typical student

C. Student with mental disabilities

D. Physically disabled student

E. Commonalities among typical and physically disabled students

F. Commonalities among typical and mentally disabled students

G. Commonalities among mentally and physically disabled students

A. CHARACTERISTICS FOUND IN ALL GROUPS OF 8TH AND 9TH GRADE STUDENTS

Certain characteristics are generally true of 8th and 9th graders as a group. Individually, students may show wide variations in relation to any one characteristic.

Conforms to peer standards and behavior.

Emulates behavior of older or prestigious models.

Is easily influenced or swayed by ideas, beliefs, and tastes of others.

Tends to be intolerant and critical of self and others, exaggerates imperfections.

Tests his/her control and influence over others, sometimes cruelly.

Enjoys group activity and friendships, tending to form somewhat exclusive groups.

Is very sensitive to criticism, rejection, inadequacies, and failure: unsure of self.

Is establishing own identity and independence.

Displays behaviors that are erratic and unpredictable; tends to go to extremes.

May spend much time "daydreaming."

Is competitive and highly motivated by tangible reward and/or praise.

Is concerned about sexuality and reproduction and his/her own masculinity or femininity.

May worry about concerns over which he/she has little or no control.

Alternates between extremes of energy and fatigue.

Tends to have poor posture and clumsy, awkward movements.

May voice a wide variety of physical complaints.

May be careless and negligent about nutrition, rest, and health practices.

Is active, noisy, and boisterous.

Is subject to wide mood variations and lacks emotional control.

Is highly self conscious and feels himself/herself to be "on display."

May be preoccupied with his/her own appearance and dress.

Needs to feel included.

Engages in incidental learning.

Places high priority upon status and approval from peers.

B. CHARACTERISTICS FOUND IN THE TYPICAL STUDENT

There were no characteristics found only in the typical student which were not shared by the physically and/or mentally disabled student.

C. CHARACTERISTICS FOUND IN STUDENTS WITH MILD MENTAL DISABILITIES

As was true for 8th and 9th grade students as individuals, 8th and 9th grade mentally disabled students exhibit wide variations from individual to individual. However, the following characteristics are more likely to be found in the mentally disabled as a group than in the general population.

Has learning curve similar but much slower than the normal child.

Lags behind classmates 1-1/2 to 3 years in basic skills.

Develops at 1/2 - 3/4 the rate of the average child.

Performs better in oral than written testing situations.

Is limited in generalizing ability.

Transfers concrete learnings, with help.

Retains knowledge that has been overlearned.

Possesses limited powers of self-evaluation.

Has limited ability to use power of concentration for long periods of time.

Is primarily concerned with the "here and now."

Lacks inner motivation; is outer motivated.

Is limited in judgement and decision making ability.

Does not find repetitious or monotonous tasks distasteful.

D. CHARACTERISTICS FOUND IN STUDENTS WITH PHYSICAL DISABILITIES

Wide individual variations are found in the physically disabled. As a group, however, they are likely to exhibit the following characteristics.

Has personal appearance that may indicate some physical limitation.

Feels rejected by peers when judged by physical appearance.

May or may not accept own disability, and possible appearance, as permanent.

May be overly rejecting or overly demanding of help from others.

Has difficulty in establishing himself/herself as an adult, difficult to attain society's "signs of maturity":
...marriage-parenthood
...economic independence
. independent living

May be stronger or weaker physically than he/she appears to be.

E. COMMONALITIES AMONG TYPICAL AND PHYSICALLY DISABLED STUDENTS

Is developing a sense of social consciousness; may strongly espouse a 'cause'.

May be very persistent in learning skills.

Can conceptualize and reason abstractly and can use abstract rules and generalizations to solve problems.

Is capable of considering various ways of solving a problem, can examine the probable consequences of possible alternative, and can take responsibility for the outcomes of his decisions.

Delights in own discovery of truths and inconsistencies.

May be acutely sensitive to injustice and to right or wrong.

Tends to view right or wrong as absolutes.

Is within the "normal" range of intellectual ability.

F. COMMONALITIES AMONG TYPICAL AND MILDLY MENTALLY DISABLED STUDENTS

May not be physically as strong as he/she may appear to be.

Normal physical appearance with wide variations.

G. COMMONALITIES AMONG MILDLY MENTALLY DISABLED AND PHYSICALLY DISABLED STUDENTS

May lag behind normal children in motor development (both gross and fine).

Has low tolerance for frustration.

May withdraw from activity in classroom, or may exhibit aggressive behavior.

Lacks self-confidence.

May be lagging in social development.

May become passive - resistive by refusing to participate actively within the class, and then may engage in surreptitious disruptive behavior.

Can become an obtrusive behavior problem whose acting out, hyperactivity and extreme distractibility disrupt the activities of the rest of the class.

May have a poor self image.

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Mainstreaming Seminar
Project 400-27-06
3/21/77

Learning Centers

Definition of Learning Center:

Home economics learning centers are teaching-learning environments established either within or outside the classroom for the purpose of assisting small groups of learners, working either individually or as a group, to achieve one or more specified educational objectives. Each center contains the necessary instructional aids to be used in the accomplishment of the objective(s).

Rationale for use of learning centers with home economics classes to facilitate effective instruction for students of a range of intellectual abilities in a mainstreamed class situation.

Learning centers (as a teaching/learning strategy) within home economics:

1. Encourage all students to develop social skills through small group interaction.

2. Encourage involvement of all students. Mentally disabled students are much more likely to participate actively in small groups than in large groups.

3. Provide opportunity for individualized instruction to meet the educational needs and goals of all students through group rather than independent study. Reinforcement or enrichment activities can be offered as needed.

4. Free the teacher during the class period to give personalized help to students as needed.

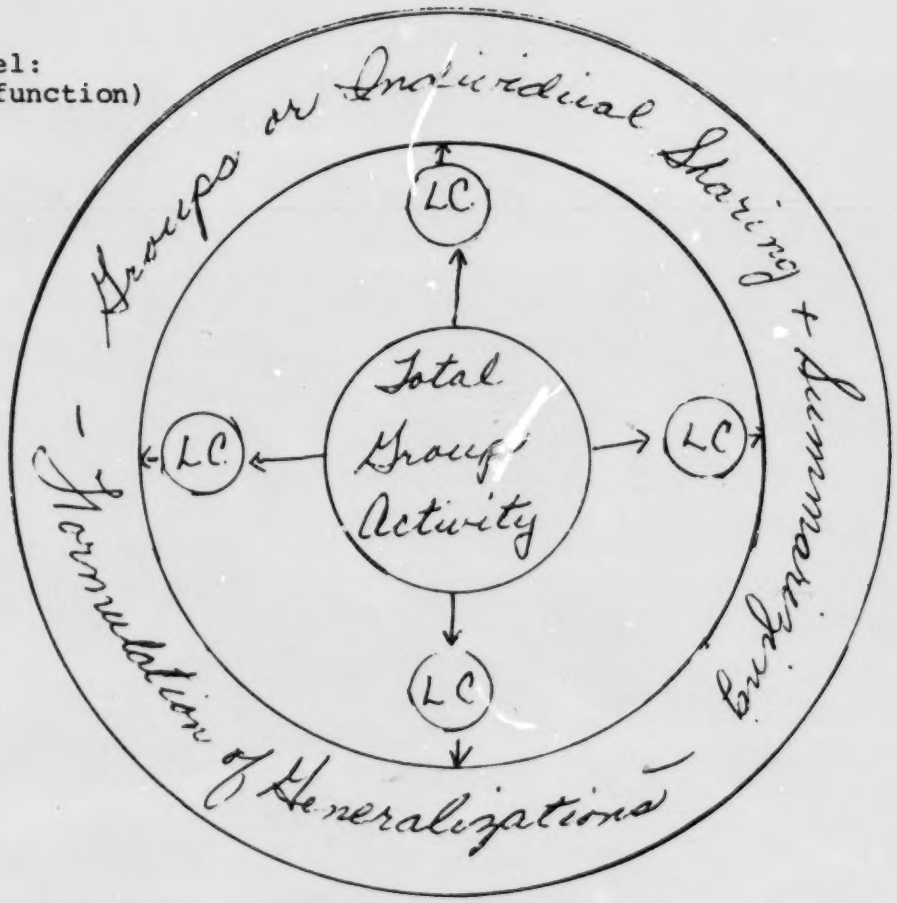
5. Provide opportunity for tutorial help as needed, either by peers, resource teachers, or para professionals.

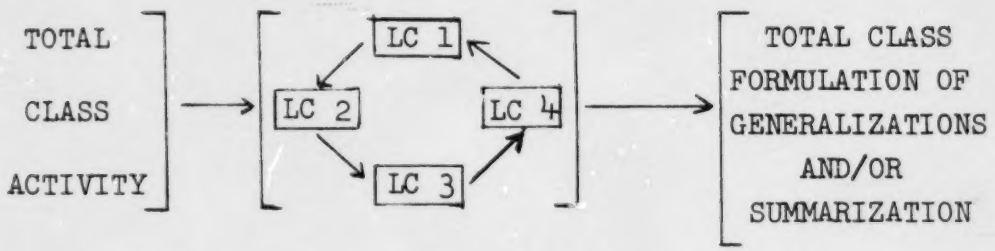
6. Encourage the teacher to provide meaningful "hands on" activities for areas that may be primarily academic in nature.

7. Help the non-disabled student gain greater appreciation for the disabled individual as a person with needs and differing abilities, as they work closely together to accomplish a common objective.

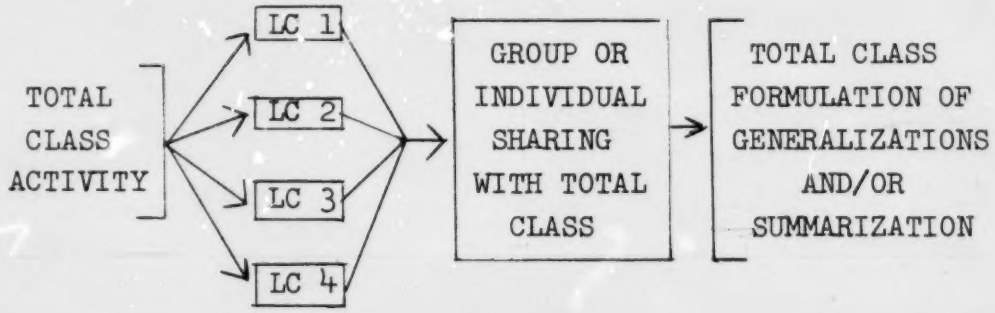
8. Contribute to the acquisition of skills for living competencies of communicating ideas, verbally and nonverbally, respecting and getting along with people with whom one works and lives, and accepting oneself as a worthy individual.

Model:
(function)





Plan 1 (flow chart)



Plan 2 (flow chart)

Learning centers - dividing classes into groups:

1. Size of groups: minimum 3 students
   maximum 5 students

   ∴ the number of learning centers within the classroom would depend upon the size of the class.

2. Students would be heterogeneously grouped by academic ability so slow learners are not isolated.

3. The teacher should consider student preferences among classmates within the classroom.

SKILLS FOR LIVING

Adulthood	Early Adolescence
1. Maintain a state of physical and psychological well being.	a. Apply principles of nutrition in the selection of food consumed b. Follow sanitary procedures and safety practices in the environment c. Accept responsibility for establishing regular routines that contribute to a healthy body d. Be aware of health services available to a teen-ager
2. Identify personal values and philosophy	a. Clarify personal values to guide behavior and make choices b. Identify short and long term goals
3. Develop one's own potential	a. Accept self as a worthy individual b. Accept one's own femininity or masculinity c. Recognize one's strengths and weaknesses d. Develop an awareness of the significance of continuous self-improvement
4. Respect and get along with people with whom one works and lives	a. Be aware of the interdependence of youth and parents or guardians b. Comprehend qualities needed for living effectively with family members and others

5. Use knowledge and acquire attitudes basic to a satisfying family life	a. Comprehend what contributes to a satisfying family life b. Realize there are commonalities among families and yet each family is unique
6. Communicate ideas, verbally and non-verbally	a. Communicate ideas, verbally and non-verbally
7. Select and participate in leisure time activities that provide self-satisfaction	a. Explore and become involved in a variety of leisure time activities
8. Appreciate culture and beauty in various forms	a. Be willing to take advantage of opportunities to explore beauty and culture in a variety of forms
9. Earn a living	a. Explore the satisfactions of earning money b. Comprehend the reciprocal responsibilities of the employer and employee c. Explore possible directions of career choice
10. Manage one's money and other resources	a. Be aware of personal resources in addition to money b. Develop skills in relation to management of money, time and energy
11. Use skills of critical thinking in examining and using information and in problem-solving	a. Identify alternative solutions to problems and recognize possible outcomes of each solution b. Accept the consequences of their decisions c. Decide when information is reliable
12. Adjust to changes in personal life, family life, and society	a. Recognize that change is part of life b. Realize that continuing education throughout the life time is a way of coping with change

13. Adjust to forces of nature and understand the physical environment	a. Realize that man is subject to the forces of nature b. Realize the limitations of resources in our physical environment and personal obligation for conservation
14. Accept civic responsibility as a participating member of the community, state, and nation	a. Accept the necessity for laws and law enforcement b. Use community facilities with care c. Accept the responsibility for being a contributing member of school and/or community activities

Mainstreaming Seminar
Project 400-27-06
3/21/77

Teaching Module for Learning Centers

Theme: the consumer has a right to know

Level: 8th or 9th grade mainstreamed home economics classes

Objectives and possible generalizations:

Objective A: The student will be better able to identify sources of consumer information

possible generalizations:

1) Labels, hang-tags, user pamphlets, and packaging of products usually provide consumer information.

2) Current consumer information maybe found in articles and advertisements in magazines and newspapers.

3) Government agencies, business and professional groups, and private non-profit organizations are all possible sources of consumer information.

Objective B: The student will be better able to analyze consumer information for completeness and reliability.

possible generalizations:

1) Reliable consumer information is true and unbiased.

2) Sources of consumer information vary in the completeness of information they provide.

3) Because manufacturers want to see their product(s), their advertising may be biased.

Objective C: The student will be better able to recognize that federal laws regulate product labeling so the consumer knows what he/she is buying.

possible generalizations:

Clothing

1) Labels on fabrics and garments are required by law to include per cent of each fiber used in order of predominence.

2) Law requires that care instructions be attached to all garments and given with all fabrics.

Food

1) Labels on food are required by law to clearly name the product, give the weight, amount of contents, manufacturers name and address, and list all ingredients for most foods.

2) Law requires specific nutrition information to be given on labels of foods that have been fortified, or for which special nutritional claims are made by the manufacturer.

3) Meat and poultry products must have a federal inspection symbol.

Objective D: The student will be better able to identify how advertising appeals to consumers to sell products.

possible generalizations:

1) Advertising may primarily present facts about the product.

2) Advertisements appeal to consumers by picturing products attractively.

3) Advertising may use emotional appeals to sell products.

Concepts to be acquired:

Concepts taken from the generalizations associated with each objective have been grouped into three categories. The teacher concepts are specifically those the teacher needs to introduce or have introduced to the class as a whole before the student goes to the learning centers.

Activities are provided in the learning centers for the student concepts, to encourage students to internalize the concepts.

Reinforced concepts are those recurring from one objective to another.

Objective A:

Teacher Concepts:	Student Concepts:	Reinforced Concepts:
consumer	hang-tags	sources of consumer information
consumer information	labels	hang-tags
current consumer information	user pamphlets	labels
sources of consumer information	packaging of products	advertising
user pamphlet	articles-magazines, newspapers	
	advertisements-magazines, newspapers	
	sources of consumer information: government agencies	
	business-professional groups	
	private nonprofit organizations	

Objective B:

Teacher Concepts:	Student Concepts:	Reinforced Concepts:
reliable	reliable consumer information--	advertising consumer sources of information
true, unbiased	true & unbiased	
biased	biased advertising	
consumer	product advertising	

Objective C:

Teacher Concepts:	Student Concepts:	Reinforced Concepts:
labels	Clothing:	labels
federal laws	fiber content	consumer
percentage	care instructions	
consumer	Foods:	
poultry	nutrition label information	
fortified foods	federal inspection symbol (meat and poultry)	
special nutritional claims		
ingredients		
meat and poultry products		

Objective D:

Teacher Concepts:	Student Concepts:	Reinforced Concepts:
emotional appeals	emotional appeals	consumer
picturing attractively	factual advertisements	advertising
expiration date	picturing attractively	factual advertisements

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SUGGESTED DEFINITIONS - TEACHER CONCEPTS

CONSUMER	-anyone who uses goods and services, thus everyone is a consumer
CONSUMER INFORMATION	-any information that helps one to more effectively fulfill a consumer role.
CURRENT CONSUMER INFORMATION	-the most recent information one may find to use in the role of a consumer; example: newspaper ads.
SOURCES OF CONSUMER INFORMATION	-labels, hang tags, user pamphlets, packagings, newspapers, magazines, publications of government businesses, and testing organizations are all places where one may obtain consumer information.
USER PAMPHLETS	-a booklet or hang tag found with a product or provided by a product manufacturer which informs the consumer of the proper and most beneficial way to use the product.
RELIABLE	-something you can count on to be true, factual, and unbiased.
TRUE-UNBIASED	-information based on facts which can be proven.
BIASED	-an opinion that is stated as though it is absolutely true and factual.
LABELS	-for purposes of establishing legislation on labeling, labels are interpreted to mean any printed information given with products on labels, hang tags, packages, containers, wrappings, fabric bolts, printed or pasted on the product, or woven into the fabric.
POULTRY	-any birds used for food (chicken, turkey, geese, ducks, etc.).
FORTIFIED FOODS	-those enriched with vitamins, minerals, or proteins.
SPECIAL NUTRITIONAL CLAIMS	-claims (usually in product advertising) that a product is more nutritious than a similar product or is an especially healthy food.

INGREDIENTS	-the foods in a recipe or anything (food, spices, chemicals) that enters into a processed food product.
MEAT AND POULTRY PRODUCTS	-foods which contain even very small amounts of meat or poultry, or are made from meat or poultry, (ie. soups with meat or poultry in the name on the label, canned or frozen pasta main dishes, frozen pizza, etc.).
FEDERAL LAWS	-laws passed by the federal government which regulate the labeling of consumer products.
PERCENTAGE	-clothing: based upon 100 parts, the amount of a specific fiber contained in a fabric (ex.: 80% cotton/ 20% dacron or 80 parts cotton/ 20 parts dacron). -food: the amount of specific nutrient contained in a food product in relation to the recommended daily allowance established by the federal government.
EMOTIONAL APPEALS	-one method an advertisement may use to convince a person to buy a product; through the use of words and pictures the ad may suggest the consumer would feel prettier, healthier, happier, more popular or successful, or like all of his friends if the product is used.
PICTURING ATTRACTIVELY	-an ad which is pleasant and appealing to look at (use of color and pictures), and the attractiveness is used to persuade a consumer to stop and read the advertisement.
EXPIRATION DATE	-printed on the label of food products the date indicates the manufacturers' suggested time limit for the sale of the product; it does not mean the product necessarily becomes worthless after this date. On a "cents-off" coupon it indicates the final date the coupon may be used.

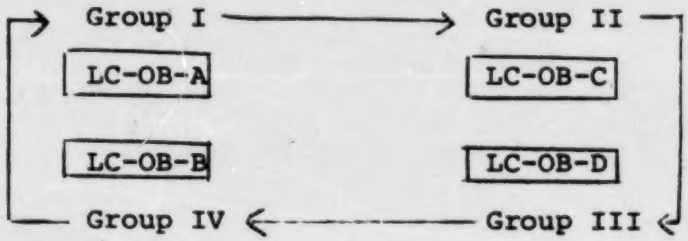
Student introduction to learning centers: suggested information

Your class is being divided into small groups of four or five students and each group will be assigned to one learning center. In the learning centers there are instructions for planned activities that will help you learn more about different kinds of consumer information. Some activities will be completed by your group working together and some will be done by each student working alone within the group. There are direction sheets or cards in each center which tell you how to do each activity and the order to follow. You may ask the teacher for assistance if you have a question about what you are to do. Each center contains all of the materials necessary to complete the activities.

If you finish an individual task earlier than other members of your group, perhaps you can offer to assist someone else.

Overview of module: The consumer has the right to know

Plan 1: There are four learning centers* within the classroom; the activities in each learning center are devoted to only one of the four module objectives. The groups will rotate at the end of each two day period; therefore, in four two-day periods each group will have the opportunity to work on each objective.



All materials necessary to complete the activities are contained within th learning center.

April-

First week: The teacher will -

Day 1
1. Give pre-test
2. Introduce learning centers (see attached sheet)
3. Divide class into groups (will remain together throughout unit)
4. Present short introduction to
   a) arouse interest in consumer information
   b) introduce teacher concepts briefly (may omit those the class has used previously)

Day 2 & 3

1. Assign groups to learning centers
2. Groups work on activities within the centers for remainder of day 2 and day 3.

*At end of day 3 teacher may want to use 5 minutes to permit each group to state one fact they have learned.
*Use 5 minutes to put illustrative materials back in envelopes, as they will be used again as groups rotate (not worksheets).

*In classes with an enrollment of more than 20 students; some learning centers maybe duplicated.

Second week:

Day 1 & 2

1. Brief reintroduction by teacher
2. Rotate groups
3. Groups work in learning centers for rest of day 1 and 2
4. Summary statements
5. Put away materials

Third week:

Same as 2nd week

Fourth week:

Day 1 & 2 - same as weeks 2-3

Day 3 - The teacher will:

1. lead large group in brief summarization of information presented in the learning center activities using any of the illustrative materials from learning centers
2. administer post-test
3. permit students to fill out student evaluation form.

At the end of April and upon completion of the teaching module please return (in the envelopes provided)

1) the pre-test
2) the post-test
3) the student evaluation forms
4) the teacher evaluation form

Thank you!

Overview of module: the consumer has the right to know

Plan 2: There are four learning centers within the classroom. In each two day period all centers will work on a single objective; each center containing different activities directed toward a different generalization. Not all students will have the opportunity to work on all generalizations to learn the generalizations directly, but will have the opportunity to learn the generalizations as the students from each center report to the total class.

All materials necessary to complete the activities are contained within the learning center.

April-

On a day preceding the first learning center activities: The teacher will-

(20 min.)

1. administer pre-test
2. introduce learning centers (see attached sheet)
3. divide class into groups
4. present short introduction to arouse interest in consumer information

First week: Objective A

Day 1 the teacher will-

1. present teacher concepts for objective A
2. direct groups to learning centers.

The groups will work on activities in centers for remainder of day

Day 2 Students go directly to centers and finish activities if needed

Organize group presentation

Each group share with the total class a summary of activities from their learning center; using any illustrative materials from their center that they wish

If time permits teacher leads large group summary.

Second week: Objective B

Day 1 and 2 - same procedure as Week 1

Third week: Objective C

Day 1 and 2 - same procedures as Week 1 and 2

Fourth week: Objective D

Day 1 and 2 - same procedure - as above

Day 3 - The teacher will:

1. lead large group in brief summarization of information presented in the learning center activities using any of the illustrative materials from the learning centers
2. administer post-test
3. permit students to fill out student evaluation form

At the end of April and upon completion of the teaching module please return (in the envelopes provided)

1) the pre-test
2) the post-test
3) the student evaluation forms
4) the teacher evaluation form

Thank you!

Overview of module: the consumer has the right to know

Plan 3: There are four learning centers within the classroom, each will contain all materials necessary to complete the activities of the center.

April-

On a day preceding the first learning center activities: the teacher will-

(20 min.)

1. administer pre-test
2. introduce learning centers (see attached sheet)
3. divide classes into groups
4. present short introduction to arouse interest in consumer information

First week:

All learning centers will work on Objective A; each center (or pair of centers) containing different activities directed toward a different generalization. Not all students will have the opportunity to work on all generalizations directly, but will have the opportunity to learn the generalizations as the students from each center report to the total class.

Day 1 The teacher will:

1. present teacher concepts for Objective A (may omit those the class has used previously)
2. direct assigned groups to learning centers
3. the students will work on activities in their center for remainder of day.

Day 2 Students go directly to centers and finish activities if needed

Organize group presentation

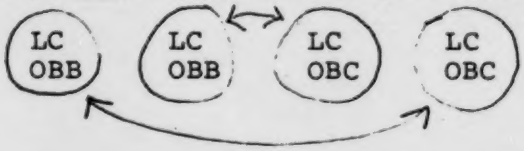
Each group share with the total class a summary of activities from their learning center using any illustrative materials from their center that they wish

If time permits teacher leads total class in summary,

Second week and Third week:

The activities in each pair of learning centers will be devoted to a separate objective - B and C. In the 2-2 day periods (Week 2-3) each group will have the opportunity to work on each objective:

2nd week -
3rd week -



Second week:

Day 1 the teacher will-

1. present teacher concepts for objectives B and C (may omit those the class has used previously)
2. assign groups to learning centers-- the groups will work on activities within the center for the remainder of day 1 and 2.

Day 2

3. at end of day 2 the teacher may want to use 5 minutes to permit each group to state one fact they have learned
4. use 5 minutes to put illustrative materials in envelopes, as they will be used again as groups rotate (not worksheets)

Third week:

Day 1 the teacher will-

1. rotate groups in learning centers
2. briefly review teacher concepts - Objectives B & C

Day 2 Remainder of day 1 and 2 as in second week above.

Fourth week: Repeat of first week

Day 1 & 2 - activities directed toward Objective D

Day 3 the teacher will-

1. lead large group in brief summarization of information presented in the learning center activities using any of the illustrative materials from the learning centers
2. administer post-test
3. permit students to fill out student evaluation form

At the end of April and upon completion of the teaching module please return (in the envelopes provided)

1) the pre-test
2) the post-test
3) the student evaluation forms
4) the teacher evaluation form

Thank you!

APPENDIX D. EVALUATION DEVICES

Project 400-27-06
ISU - 4/77

Consumer Information Quiz

READ EACH OF THE FOLLOWING QUESTIONS. CIRCLE THE LETTER OF THE BEST ANSWER FOR EACH QUESTION.

1. If the label lists the ingredients in a can of beef stew as "water, beef, potatoes, carrots, and carmel coloring", which ingredient is contained in the largest amount?

   A. Beef

   B. Water

   C. Carmel coloring

2. Which of the following items is the most reliable source of consumer information?

   A.

   B.

   C.

3. When buying cereal advertised as "fortified" or "especially nutritious", the law says you must be provided with information on:

   A. The amount of protein and calories in the food

   B. Directions for preparing or serving the food

   C. The quality grade of the food

4. The nutrition information from this food label tells you that one serving of this food:

PROTEIN	35	RIBOFLAVIN	15
VITAMIN A	35	NIACIN	25
VITAMIN C (ASCORBIC ACID)	10	CALCIUM	*
THIAMIN (VITAMIN B_1)	15	IRON	25
		VITAMIN B_6	*

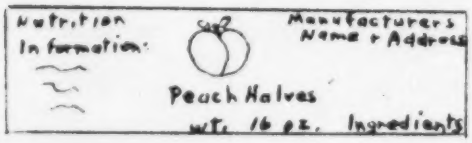
   A. Has all the calcium normally needed in one day

   B. Is a better source of protein than Vitamin A

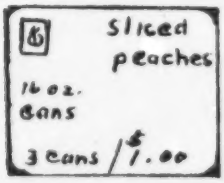
   C. Is a better source of Vitamin A than Vitamin C

5. Which item has the most information which is useful to the consumer?

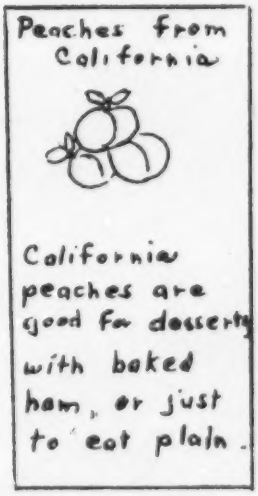
A.



B.



C.



6. Which information below does the law say must be on the label of a frozen food that contains meat?

   A. The date after which the food should no longer be used

   B. U.S. shield or mark giving the quality grade

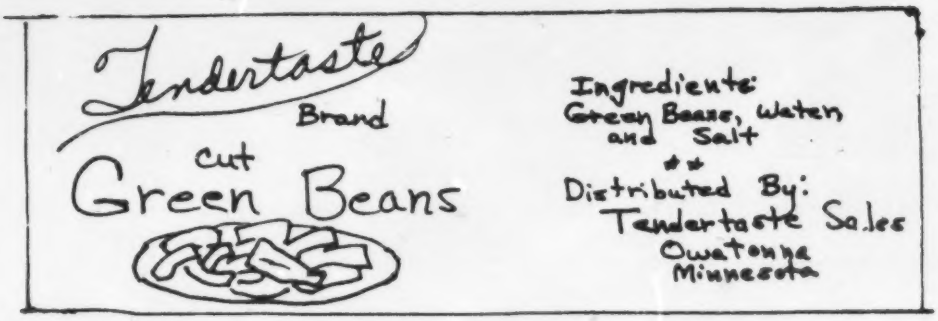
   C. U.S. inspection mark symbol or circle

7. What information required by law is missing from this label?

   A. Nutrition Information

   B. Preparation Directions

   C. Weight of the food



IN COLUMN I IS A LIST OF THE KINDS OF CONSUMER INFORMATION YOU MIGHT NEED TO FIND. IN COLUMN II IS A LIST OF SOURCES OR PLACES WHERE YOU MIGHT GET CONSUMER INFORMATION.

ON THE LINE IN FRONT OF EACH NUMBER IN COLUMN I, WRITE THE LETTER FROM COLUMN II OF THE BEST PLACE TO GET EACH KIND OF INFORMATION.

COLUMN I	COLUMN II
_____1. Ingredients in a frozen pizza	A. Consumer groups that test products
_____2. Which fresh vegetables are available in the grocery stores in your town	B. Extension Publications
	C. Newspaper ads
_____3. How to use leftover foods	D. Product labels
_____4. Comparison of the nutritional value of bread, Brand "X" and "Y"	E. User pamphlets

THE STATEMENTS BELOW ARE FROM MAGAZINE ADS. READ EACH ONE, AND MARK THE <u>BIASED</u> ADS "B" AND THE <u>UNBIASED</u> ADS "U".

_____1. Macaroni and Cheddar--"the tastiest cheddar sauce that ever came out of a package.

_____2. "Pineapple packed in its own juice. No sugar added. At Dole, sweetness comes naturally."

_____3. "Make any meatloaf taste even better" with A-1 steak sauce.

READ THE FIVE ADS AT THE FRONT OF THE ROOM. DECIDE IF THE AD IS TRYING TO SELL THE PRODUCT BY USING:

A. Attractiveness appeal

B. Emotional appeal

C. Factual appeal

CIRCLE THE LETTER OF THE APPEAL USED.

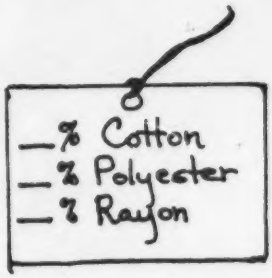
AD 1	A	B	C
AD 2	A	B	C
AD 3	A	B	C
AD 4	A	B	C
AD 5	A	B	C

Project 400-27-06
ISU - 4/77

Consumer Information Quiz

READ EACH OF THE FOLLOWING QUESTIONS. CIRCLE THE LETTER OF THE BEST ANSWER FOR EACH QUESTION.

1. If a coat label lists these fibers



which fiber is found in the largest amount in the fabric?

A. Polyester

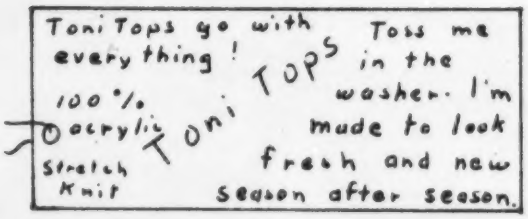
B. Cotton

C. Rayon

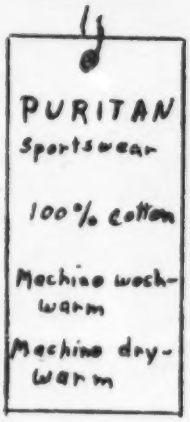
2. Which of the following items is the most reliable source of consumer information?

A.

B.



C.



3. When buying a fabric for home sewing, the law says you must be able to get information on:

A. How to wash or take care of the fabric.

B. Amount of shrinkage to be expected.

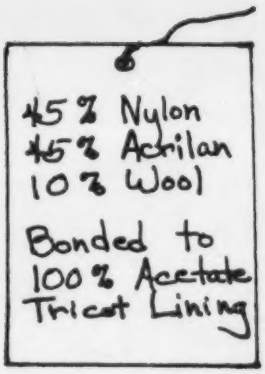
C. Facts about the quality of the fibers used in this fabric.

4. This coat label, giving fiber information, tells you that:

   A. Acetate fibers are blended with the other fibers in this fabric

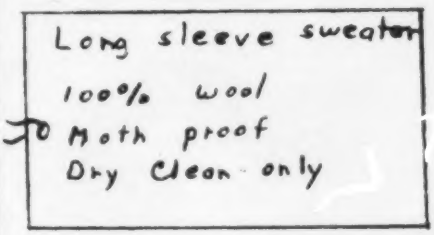
   B. There is more nylon than Acrilan in this fabric

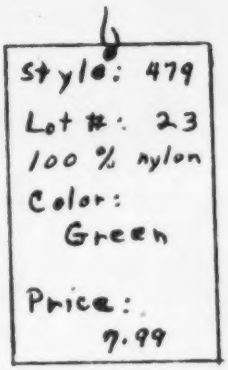
   C. There is more Acrilan than wool in this fabric

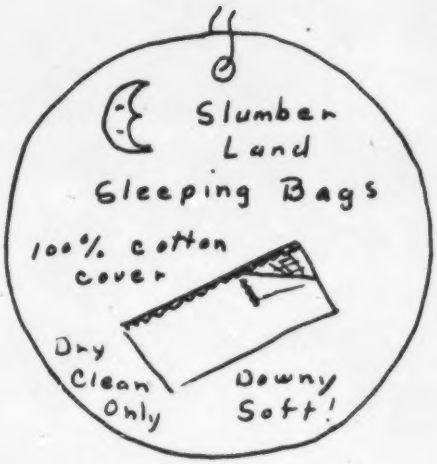


5. Which hangtag has the most information which is useful to the consumer?

   A. B. C.







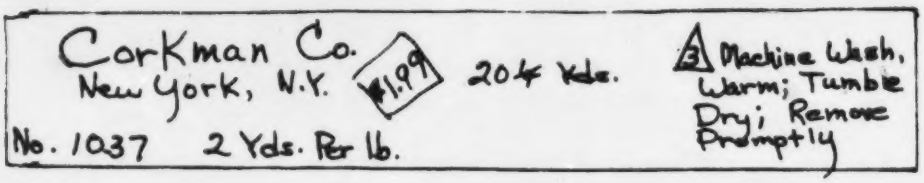
6. Which information below does the law say must be on permanent labels sewn into clothing?

   A. Standard size

   B. Fibers used in the fabric

   C. Instructions for laundry and care

7. What information required by law is missing from the information on this fabric bolt?



A. Special fabric finishes

B. Fabric width

C. Per cent of each fiber

IN COLUMN I IS A LIST OF THE KINDS OF CONSUMER INFORMATION YOU MIGHT NEED TO FIND. IN COLUMN II IS A LIST OF SOURCES OR PLACES WHERE YOU MIGHT GET CONSUMER INFORMATION.

ON THE LINE IN FRONT OF EACH NUMBER IN COLUMN I, WRITE THE LETTER FROM COLUMN II OF THE BEST PLACE TO GET EACH KIND OF INFORMATION.

COLUMN I	COLUMN II
_____1. Fibers in a T-shirt fabric	A. Consumer groups that test products
_____2. Styles of clothing available in the stores in your town	B. Extension publications
_____3. How to remake out-of-style clothing	C. Newspaper ads
_____4. Comparison of the quality and performance of two hotcombs. Brand X and Brand Y	D. Product labels
	E. User pamphlets

THE STATEMENTS BELOW ARE FROM MAGAZINE ADS. READ EACH ONE, AND MARK THE BIASED ADS "B" AND THE UNBIASED ADS "U".

_____1. Velcro--"the world's easiest, most versatile fastener."

_____2. "Yellow Canvas Wrapcoat is treated to be water resistant by Jane Charney for Drizzle, 4-16, $95."

_____3. Connie--The "I have to have it 'cause it goes with everything shoe."

READ THE FIVE ADS AT THE FRONT OF THE ROOM. DECIDE IF THE AD IS TRYING TO SELL THE PRODUCT BY USING:

A. Attractiveness appeal

B. Emotional appeal

C. Factual appeal

CIRCLE THE LETTER OF THE APPEAL USED.

AD 1	A	B	C
AD 2	A	B	C
AD 3	A	B	C
AD 4	A	B	C
AD 5	A	B	C

Working Materials
ISU Project 400-27-06
April 28, 1977

Student Attitudes Toward Consumer Information Unit

You have been helping us for the past few weeks by using the materials we prepared on sources of consumer information. We would like to know what you thought about the activities and about working in learning centers. Your answers to the following questions will help us. There are no right or wrong answers--just your opinions.

Your teacher will read the statements to you. Listen carefully and read along as she reads them to you. Then decide if you:

- Strongly agree with the statement
- Mildly agree with the statement
- Don't know how you feel
- Mildly disagree with the statement
- Strongly disagree with the statement

Then draw a circle around:

- the A if you strongly agree
- the a if you mildly agree
- the ? if you don't know
- the d if you mildly disagree
- the D if you strongly disagree

A a ? d D 1. The activities in the learning center were boring.

A a ? d D 2. I liked working in small groups.

A a ? d D 3. I helped one or more members in my group.

A a ? d D 4. It is important for consumers to use reliable information.

A a ? d D 5. I participated in most learning center activities.

A a ? d D 6. The reading materials in the learning center were easier to understand than our regular text books.

A a ? d D 7. I received help from one or more members of my group.

A a ? d D 8. We wasted a lot of time in our learning center.

A a ? d D 9. My group waited a long time for help from the teacher.

A a ? d D 10. The activities in the learning centers were too easy.

A a ? d D 11. The tapes did not help me understand the booklets.

A a ? d D 12. Advertising is something we don't need to study in school.

A a ? d D 13. It was easier to understand the directions when they were on a separate sheet.

A a ? d D 14. The full-page activity sheets were too long.

A a ? d D 15. Pictures and/or posters in the learning centers helped me to understand the information better.

A a ? d D 16. It was hard to find the materials in the learning centers which went with each activity.

A a ? d D 17. Everyone needs to know about sources of consumer information.

A a ? d D 18. I liked the activities where we worked with items, such as labels, boxes and food.

A a ? d D 19. There were not enough activities in the learning centers to keep us busy.

A a ? d D 20. I liked activities where we used work sheets.

A a ? d D 21. The directions for the activities were hard to understand.

A a ? d D 22. I would rather work with different people than the ones in my group.

A a ? d D 23. Consumers don't need to know about federal laws which protect them.

A a ? d D 24. The group reports were interesting.

A a ? d D 25. I worked harder when I had to report to the class.

A a ? d D 26. It wasn't as much fun doing activities another group had already done.

A a ? d D 27. I liked being able to choose some activities rather than doing only those that were assigned by the teacher.

COMMENTS:

Teacher Attitudes Toward Learning Centers

For the past few weeks you have been using the curriculum materials developed at ISU in your mainstreamed home economics classes. We would like to know your feelings about these materials and about using learning centers as a teaching strategy. Your answers to the following statements would be most helpful to us. There are no right or wrong answers--just your opinions.

Carefully read each of the following statements. Then decide if you:

- strongly agree with the statement
- mildly agree with the statement
- don't know how you feel
- mildly disagree with the statement
- strongly disagree with the statement

Then, draw a circle around:

- the A if you strongly agree
- the a if you mildly agree
- the ? if you don't know
- the d if you mildly disagree
- the D if you strongly disagree

A a ? d D 1. The learning center method freed me to work with the students who needed help.

A a ? d D 2. The activities were at an appropriate level of difficulty for my students.

A a ? d D 3. The students seemed to enjoy teaching each other in the learning centers.

A a ? d D 4. Sources of consumer information is an important area to include in home economics.

A a ? d D 5. It was difficult to divide my class into working groups.

A a ? d D 6. Learning centers encouraged peer tutoring.

A a ? d D 7. I would like to use learning centers again if materials were available.

A a ? d D 8. It took too much time for me to become familiar with the materials.

A a ? d D 9. The disabled students benefited from working in learning centers.

A a ? d D 10. When doing group work, all students should fill out a work sheet.

A a ? d D 11. I would take the time to develop other units to be used in learning centers.

A a ? d D 12. Advertising is something we don't need to teach about in home economics classes.

A a ? d D 13. The normal students seem more willing to work with the disabled students as a result of this experience.

A a ? d D 14. One student usually dominated a group.

A a ? d D 15. I cannot use these materials in the future with other classes.

A a ? d D 16. Students don't need to learn about federal laws which affect them as consumers.

A a ? d D 17. It was easy for students to find materials within the packets.

A a ? d D 18. The students seemed to enjoy working in learning centers.

A a ? d D 19. This was a good way to teach consumer education in a mainstreamed classroom.

A a ? d D 20. Using tapes for the disabled students was a waste of time and effort.

A a ? d D 21. Regular textbooks would have been more effective for slow learners than the prepared materials.

A a ? d D 22. In the rotation system the activities were more interesting to the first group than they were to subsequent groups.

A a ? d D 23. The learning center strategy was difficult for me to implement with my classes.

A a ? d D 24. Students learn more by doing their own work than by working in groups.

A a ? d D 25. It was difficult to fit the materials into my style of teaching.

A a ? d D 26. It is important for students to know what information is reliable.

A a ? d D 27. Two days were too long to spend on each objective.

A a ? d D 28. Concrete learning experiences using items such as food and labels helped the disabled students learn the concepts.

A a ? d D 29. The visuals (posters, pictures) were helpful to students in the learning centers.

A a ? d D 30. The materials within the packets were well organized.

A a ? d D 31. I would like to have changed the groups during the time we were using the learning center materials.

A a ? d D 32. The teacher directions were clear enough to enable me to proceed with confidence.

A a ? d D 33. The students did not enjoy doing the same activities other groups had already done.

ATTITUDE TOWARDS DISABLED PERSONS SCALE AND ANSWER SHEET

READ EACH STATEMENT AND PUT AN "X" IN THE APPROPRIATE COLUMN ON THE ANSWER SHEET. PLEASE ANSWER EVERY QUESTION.

1. Disabled persons are usually friendly.
2. People who are disabled should not have to pay income tax.
3. Disabled people are no more emotional than other people.
4. Disabled persons can have a normal social life.
5. Most physically disabled persons have a chip on their shoulder.
6. Disabled workers can be as successful as other workers.
7. Very few disabled persons are ashamed of their disabilities.
8. Most people feel uncomfortable when they associate with disabled people.
9. Disabled people show less enthusiasm than non-disabled people.
10. Disabled people do not become upset any more easily than non-disabled people.
11. Disabled people are often less aggressive than normal people.
12. Most disabled persons get married and have children.
13. Most disabled persons do not worry any more than anyone else.
14. Employers should not be allowed to fire disabled employees.
15. Disabled people are not as happy as non-disabled ones.
16. Severely disabled people are harder to get along with than are those with minor disabilities.
17. Most disabled people expect special treatment.
18. Disabled persons should not expect to lead normal lives.
19. Most disabled people tend to get discouraged easily.
20. The worst thing that could happen to a person would be for him to be very severely injured.

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21. Disabled children should not have to compete with non-disabled children.

22. Most disabled people do not feel sorry for themselves.

23. Most disabled people prefer to work with other disabled people.

24. Most severely disabled persons are not as ambitious as other people.

25. Disabled persons are not as self-confident as physically normal persons.

26. Most disabled persons don't want more affection and praise than other people.

27. It would be best if a disabled person would marry another disabled person.

28. Most disabled people do not need special attention.

29. Disabled persons want sympathy more than other people.

30. Most physically disabled persons have different personalities than normal persons.

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ANSWER SHEET

Name_____

DIRECTIONS: Use this answer sheet to indicate how much you agree or disagree with each of the statements about disabled people on the attached list. Put an "X" through the appropriate number from +3 to -3 depending on how you feel in each case.

+3: I agree very much
+2: I agree pretty much
+1: I agree a little
-1: I disagree a little
-2: I disagree pretty much
-3: I disagree very much

PLEASE ANSWER EVERY ITEM

(1)	-3	-2	-1	+1	+2	+3	(16)	-3	-2	-1	+1	+2	+3
(2)	-3	-2	-1	+1	+2	+3	(17)	-3	-2	-1	+1	+2	+3
(3)	-3	-2	-1	+1	+2	+3	(18)	-3	-2	-1	+1	+2	+3
(4)	-3	-2	-1	+1	+2	+3	(19)	-3	-2	-1	+1	+2	+3
(5)	-3	-2	-1	+1	+2	+3	(20)	-3	-2	-1	+1	+2	+3
(6)	-3	-2	-1	+1	+2	+3	(21)	-3	-2	-1	+1	+2	+3
(7)	-3	-2	-1	+1	+2	+3	(22)	-3	-2	-1	+1	+2	+3
(8)	-3	-2	-1	+1	+2	+3	(23)	-3	-2	-1	+1	+2	+3
(9)	-3	-2	-1	+1	+2	+3	(24)	-3	-2	-1	+1	+2	+3
(10)	-3	-2	-1	+1	+2	+3	(25)	-3	-2	-1	+1	+2	+3
(11)	-3	-2	-1	+1	+2	+3	(26)	-3	-2	-1	+1	+2	+3
(12)	-3	-2	-1	+1	+2	+3	(27)	-3	-2	-1	+1	+2	+3
(13)	-3	-2	-1	+1	+2	+3	(28)	-3	-2	-1	+1	+2	+3
(14)	-3	-2	-1	+1	+2	+3	(29)	-3	-2	-1	+1	+2	+3
(15)	-3	-2	-1	+1	+2	+3	(30)	-3	-2	-1	+1	+2	+3